

Service Manual

Radio

FM-LW-MW-SW ALL BAND RECEIVER

RF-B65DA

Color

(K) Black Type

- Please file and use this Service Manual together with the service manual for Model No. RF-B65D Order No. AD8902015C8.
- This Service Manual indicates the main differences between; Original RF-B65D (EG) and RF-B65DA (EG).

Area

| Country Code | Area | Color |
|--------------|--------------|-------|
| (EG) | F.R. Germany | (K) |

CHANGES

■ SPECIFICATIONS

Frequency Range: SW; 1.615~26.1 kHz

RF-B65D (EG) (Original)



Frequency Range: SW; 1.615~29.999 kHz

RF-B65DA (EG)

■ REPLACEMENT PARTS LIST

| Ref. No. | Description | Part Number | | Remarks |
|---------------------|-------------------------|----------------------------|---------------|---------|
| | | RF-B65D (EG) (Original) | RF-B65DA (EG) | |
| DIODES | | | | |
| D17 | DIODE | MA4051LRA | MA4047HRA | |
| COILS | | | | |
| L27 | ANT. COIL | RLF6019-0 | RLF6D19-0 | |
| TRANSFORMER | | | | |
| T4 | TRANSFORMER | RLI3A4-M | RLI3A001-M | |
| T5 | TRANSFORMER | RLI3A4-M | RLI3A001-M | |
| RESISTOR | | | | |
| R48 | RESISTOR (1/10 W, 470) | RRJ6GCJ101TE | RRJ6GCJ471TE | |
| R87 | RESISTOR (1/10 W, 220) | RRJ6GCJ471TE | RRJ6GCJ221TE | |
| R259 | RESISTOR (1/10 W, 22 K) | ———— | RRJ6GCJ223TE | Added |
| R292 | DESISTOR (1/10 W, 22 K) | RRJ6GCJ223TE | ———— | Deleted |
| CABINET AND CHASSIS | | | | |
| 3 | REAR CABINET ASS'Y | RYFFB65DEG | RYFFB65DAEG | |
| 4 | STAND | RKL30ZA | RKL30ZA-0 | |
| 17 | SCREW | XSHR17+2FZ | XSHR17+3 | |
| 19 | TERMINAL | RJC3F0010ZC | RJC30010ZC | |
| 41 | SOCKET | RJSS4L4ZA-X | RJS4L4ZA-X | |
| 83 | FRONT CABINET ASS'Y | RYMFB65DEG | RYMFB65DAEG | |
| ACCESSORIES | | | | |
| A4 | INSTRUCTION MANUAL | RQT0046B | RQT0535-E | |
| A5 | MEMORY CHANNEL SHEET | RQX9436YA | RQX9412ZA | |
| A6 | SHORT WAVE GUIDE | RQX9454ZA | ———— | Deleted |
| PACKING MATERIAL | | | | |
| P3 | SLEEVE | RPK0032 | RPK0163 | |

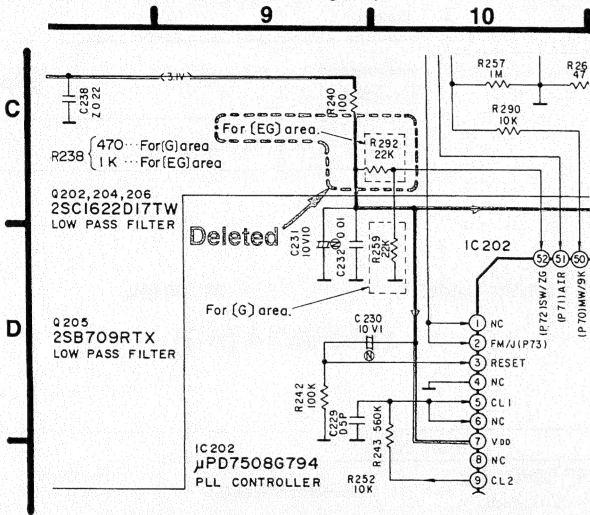
Panasonic

- In the service manual for model RF-B65D, the part numbers of the resistor and capacitor below are wrong. They should be corrected as shown. The Schematic Diagram and Circuit Board and Wiring Connection Diagram are correct.

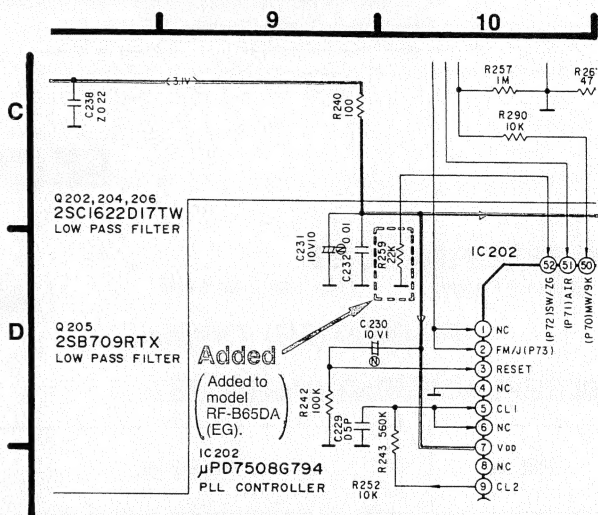
| Ref. No. | Description | Part Number | | Remarks |
|-----------|------------------------|----------------------------|---------------|---------|
| | | RF-B65D (EG) (Original) | RF-B65DA (EG) | |
| RESISTOR | | | | |
| R148 | RESISTOR (1/10 W, 220) | —— | RRJ6GCJ221TE | |
| CAPACITOR | | | | |
| C208 | CAPACITOR (50 V, 1) | ECEA1CKS100 | ECEA1HKS010 | |

SCHEMATIC DIAGRAM

- for LCD circuit section (Page 7)

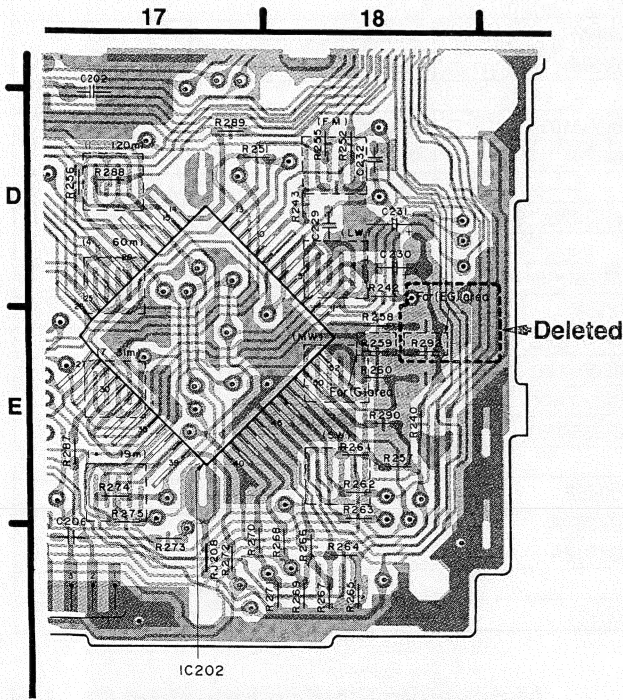


RF-B65D (EG) (Original)

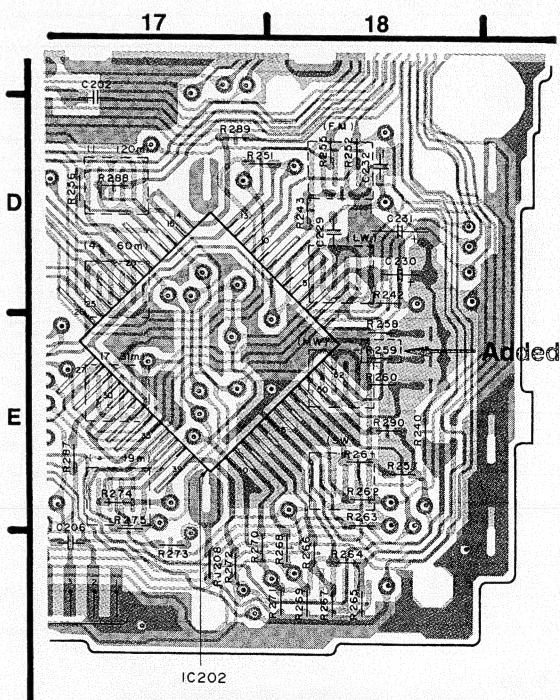


RF-B65DA (EG)

CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM (Page 14)



RF-B65D (EG) (Original)

**RF-B65DA (EG)**

MEASUREMENTS AND ADJUSTMENTS (Page 17)

■ CLOCK ALIGNMENT

| BAND | FREQUENCY DISPLAY SETTING | FREQUENCY COUNTER | ADJUSTMENT (Refer to Fig. 5) | REMARKS | | | | | | | | | | | | | | | | | | | | | | | |
|------------------|---|--------------------------|---------------------------------|--|------------------|------|-----------|------------|------|----------------------|-----|----------------------|-------------|------|----------------------|-----|----------------------|-------------|------|----------------------|-----|----------------------|-------------|------|----------------------|-----|----------------------|
| (16) SW | 29,999 MHz...(G) 26,100 MHz...(EG) ↑ Changed | TP5 ...(+) TP6 ...(-) | CT201 | <div>Adjust the frequencies according to room temperature.</div> <table><tr><th>Room Temperature</th><th>Area</th><th>Frequency</th></tr><tr><td rowspan="2">8°C≤t<22°C</td><td>(EG)</td><td>81,945000 MHz±300 Hz</td></tr><tr><td>(G)</td><td>85,844000 MHz±300 Hz</td></tr><tr><td rowspan="2">22°C≤t<26°C</td><td>(EG)</td><td>81,944800 MHz±300 Hz</td></tr><tr><td>(G)</td><td>85,843800 MHz±300 Hz</td></tr><tr><td rowspan="2">26°C≤t<30°C</td><td>(EG)</td><td>81,944500 MHz±300 Hz</td></tr><tr><td>(G)</td><td>85,843500 MHz±300 Hz</td></tr><tr><td rowspan="2">30°C≤t<33°C</td><td>(EG)</td><td>81,944100 MHz±300 Hz</td></tr><tr><td>(G)</td><td>85,843100 MHz±300 Hz</td></tr></table> | Room Temperature | Area | Frequency | 8°C≤t<22°C | (EG) | 81,945000 MHz±300 Hz | (G) | 85,844000 MHz±300 Hz | 22°C≤t<26°C | (EG) | 81,944800 MHz±300 Hz | (G) | 85,843800 MHz±300 Hz | 26°C≤t<30°C | (EG) | 81,944500 MHz±300 Hz | (G) | 85,843500 MHz±300 Hz | 30°C≤t<33°C | (EG) | 81,944100 MHz±300 Hz | (G) | 85,843100 MHz±300 Hz |
| Room Temperature | Area | Frequency | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8°C≤t<22°C | (EG) | 81,945000 MHz±300 Hz | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (G) | 85,844000 MHz±300 Hz | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22°C≤t<26°C | (EG) | 81,944800 MHz±300 Hz | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (G) | 85,843800 MHz±300 Hz | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26°C≤t<30°C | (EG) | 81,944500 MHz±300 Hz | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (G) | 85,843500 MHz±300 Hz | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30°C≤t<33°C | (EG) | 81,944100 MHz±300 Hz | | | | | | | | | | | | | | | | | | | | | | | | | |
| | (G) | 85,843100 MHz±300 Hz | | | | | | | | | | | | | | | | | | | | | | | | | |

RF-B65D (EG) (Original)



■ CLOCK ALIGNMENT

| BAND | FREQUENCY DISPLAY SETTING | FREQUENCY COUNTER | ADJUSTMENT (Refer to Fig. 5) | REMARKS | |
|---------|------------------------------|--------------------------|---------------------------------|---|-----------------------|
| (16) SW | 29,999 MHz | TP5 ...(+) TP6 ...(-) | CT201 | Adjust the frequencies according to room temperature. | |
| | | | | Room Temperature | Frequency |
| | | | | 8°C≤t<22°C | 85.844000 MHz ±300 Hz |
| | | | | 22°C≤t<26°C | 85.843800 MHz ±300 Hz |
| | | | | 26°C≤t<30°C | 85.843500 MHz ±300 Hz |
| | | | | 30°C≤t<33°C | 85.843100 MHz ±300 Hz |

RF-B65DA (EG)

Service Manual

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FB65D
MNL

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1 ST

Radio

RF-B65D

FM-LW-MW-SW ALL BAND RECEIVER

Color

(K) Black Type

**Area**

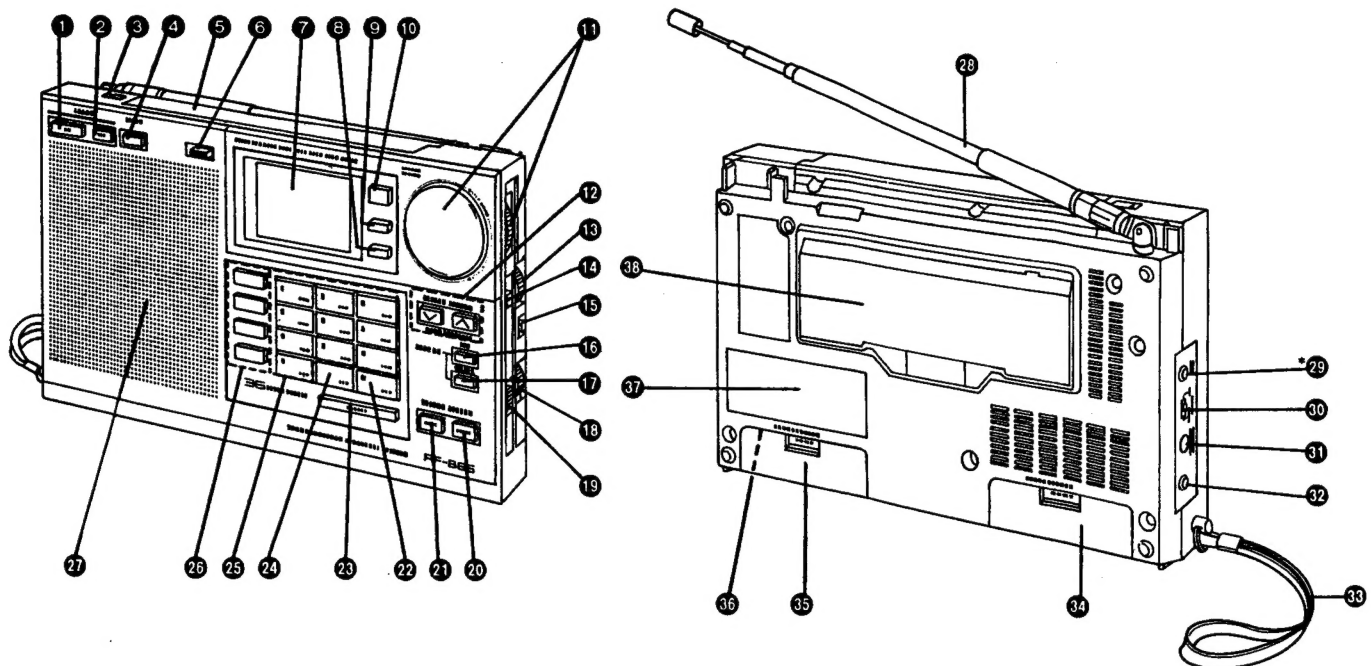
| Country Code | Area | Color |
|--------------|--|-------|
| (EG) | F.R. Germany | (K) |
| (G) | Asia, Latin America, Middle Near East, Africa and Oseania. | |

■ SPECIFICATIONS

| | |
|-------------------------|---|
| Frequency Range: | FM; 87.5~108 MHz LW; 153~519 kHz MW; 522~1611 kHz (at 9 kHz step) 520~1610 kHz (at 10 kHz step) SW; 1,615~29,999 kHz For (G) area 1,615~26.1 kHz For (EG) area |
| Intermediate Frequency: | FM; 10.7 MHz AM 1st; 55,843 MHz AM 2nd; 450 kHz For (G) area 459 kHz For (EG) area |
| Sensitivity: | FM; 4 μ V/50 mW output (-3 dB Limit Sens.) LW; 500 mV/m/50 mW output MW; 300 μ V/50 mW output SW; 16 μ V/50 mW output |
| Power Source: | Battery; 6 V (four UM-3 batteries for radio) 3 V (two UM-3 batteries for memory back-up) AC; with included AC adaptor 110~127/220~240 V, 50/60 Hz For (G) area 220 V, 50 Hz For (EG) area |
| Power Consumption: | 5 W (with included AC adaptor) |
| Speaker: | 8 cm PM dynamic speaker, 8 Ω 550 mW (RMS Max.) |
| Power Output: | Earphone; 8 Ω , \varnothing 3.5 |
| Jacks: | EXT. ANT. (LW/MW/SW); \varnothing 3.5 DC IN; 6 V |
| Dimensions: | 204.5 (W) \times 119 (H) \times 36.5 (D) mm |
| Weight: | 625 g without batteries |

Design and specifications are subject to change without notice.

LOCATION OF CONTROLS AND COMPONENTS



- 1 Power On Key (ON)...(G)**
Operation On Key (ON)...(EG)
- 2 Power Off Key (OFF)...(G)**
Operation Off Key (Off)...(EG)
- 3 Station Reminder Open Switch**
Use the switch to open the Station Reminder cover.
- 4 Sleep Key (SLEEP)**
Press the key to turn the radio off automatically in 60 minutes.
- 5 Station Reminder (STATION REMINDER)**
Attach the included Memory Channel Sheets to the Station Reminder. It is useful for Memory Tuning.
- 6 AM Mode Selector (AM MODE)**
When receiving the SSB (Single Side-Band), set to "SSB". For others, set to "NORMAL".
- 7 LCD Multi-Information Display**
- 8 Time Set Key (TIME SET)**
Press the key when setting a clock time.
- 9 Dual Time Set Key (DUAL TIME)**
This unit enables the dual clock time besides the normal clock time to be set. Press the key when setting the dual clock time, or selecting the display of the normal or dual clock time.
- 10 Display Select Key (CLOCK/FREQ)**
Press the key to select the frequency display or the clock display.
- 11 Rotary Tuning Control (ROTARY TUNING)**
- 12 Up and Down Keys (∨ • ∧)**
Press the Up Key (∧) or Down Key (∨) to make the frequency change up or down during Manual Tuning and Auto Scan Tuning. Or press to stop Auto Scan Tuning.
- 13 Fine Tuning Control (FINE TUNE)**
When receiving the SSB, use this control for more precise tuning.
- 14 Rotary Tuning Step Selector**
For Rotary Tuning, set the selector to "FAST" or "SLOW" to make the frequency change at your desired tuning steps. In "LOCK" position, Rotary Tuning cannot operate. So, the frequency being received will be locked, and cannot be drifted accidentally.
- 15 Tone Selector (TONE)**
- 16 Standby Time Set Key (SET)**
Press the key to set the time you want to turn the radio on automatically.
- 17 Standby Time Cancel Key (CANCEL)**
Press the key to cancel the standby time.
- 18 Volume Control (VOLUME)**
- 19 Hold Switch**
Usually set the switch to the opposite direction of the arrow.
When it is set to the direction of the arrow, the operation of all the keys and the Rotary Tuning Control will be locked.
It is effective during both the radio-on and off.
- 20 Meter Band Direct Access Key (METER)**
Press the key before calling the lowest frequency of the SW meter band including your desired station.
- 21 Frequency Direct Access Key (FREQ)**
When you know the frequency of your desired station, press the key before entering the frequency number.
- 22 Memory/Meter Band Key**
Use the key first when you preset the desired stations into each of the memory channels. This key also functions as the Meter Band Key, which can call the lowest frequency of a SW meter band.
- 23 Enter Key (ENTER)**
After entering the frequency number of your desired station or the number of a clock time, press the key to begin receiving the broadcast of the station or to complete the time setting.
- 24 Decimal Point/Meter Band Key**
For Frequency Direct Access Tuning, use the key to enter the decimal point of the frequency.
This key also functions as the Meter Band Key.

25 Number/Memory Channel/Meter Band Keys

Press the keys in the following ways.

- In Frequency Direct Access Tuning, to enter the frequency number of your desired stations.
- In Memory Tuning, to preset and call the stations.
- In Meter Band Direct Access Tuning, to call the lowest frequency of a SW meter band.

26 Band Select Keys**27 Speaker (8 cm, 8Ω)*****29 External Antenna Jack (EXT ANT)**

*29 is not equipped with the model for F.R. Germany.

30 Sensitivity Selector (SENS)

Normally set to "DX". When the reception is impaired or interfered by powerful station, set to "LOCAL".

The selector cannot operate for FM reception.

31 DC Input Jack (DC IN 6 V $\ominus \rightarrow \oplus$)**32 Earphone Jack (\odot)**

Connect the included earphone to the jack.

- Adjust the volume to lower level so as not to injure your ear.

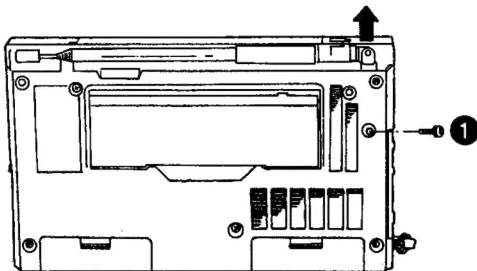
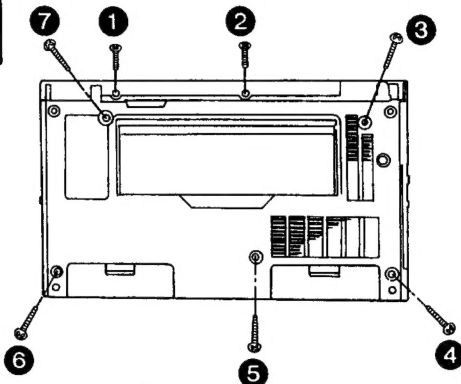
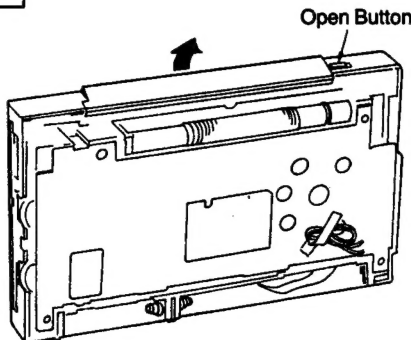
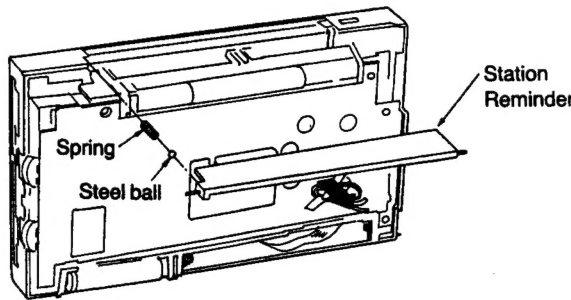
33 Carrying Strap**34 Radio Battery Compartment (RADIO BATTERY)****35 Memory Back-up Battery Compartment (BACK-UP BATTERY)****36 MW Frequency Step Selector (In the Memory Back-up Battery Compartment)**

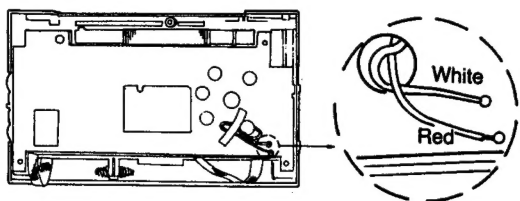
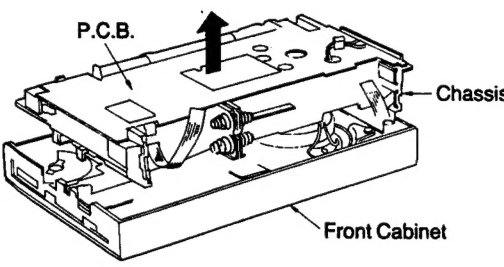
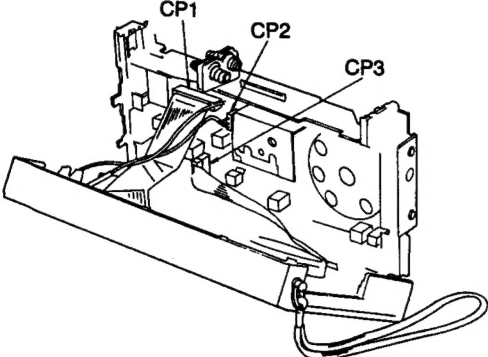
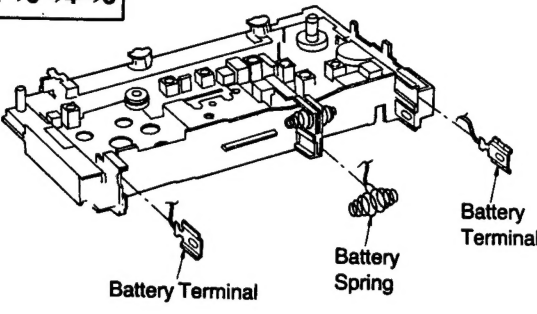
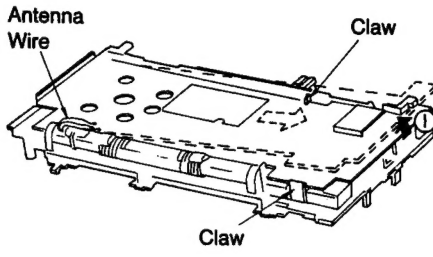
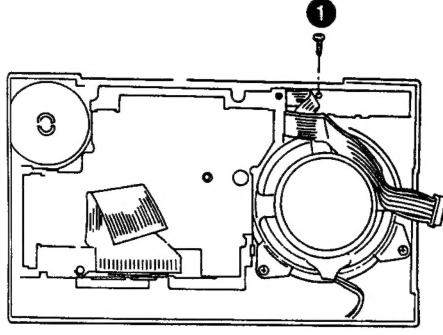
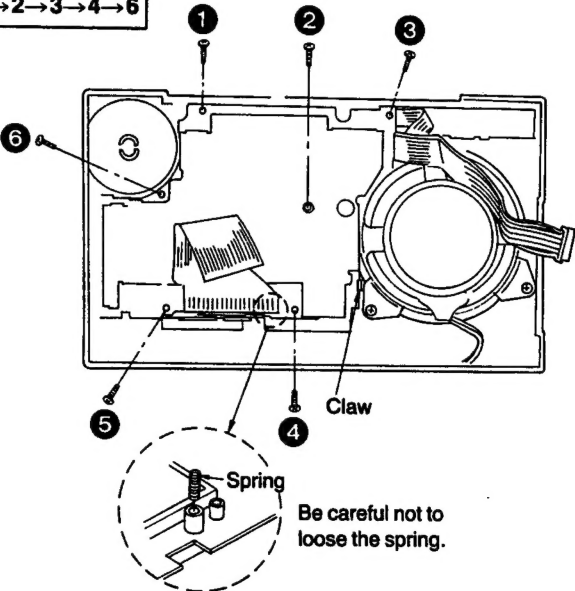
Before use, check that the selector is set to the frequency step corresponding to your area.

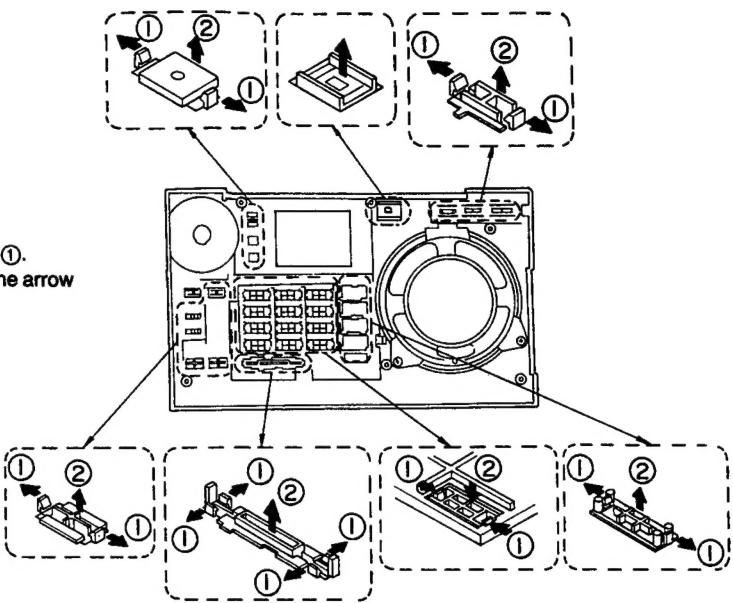
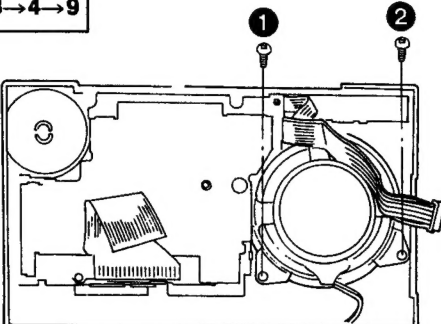
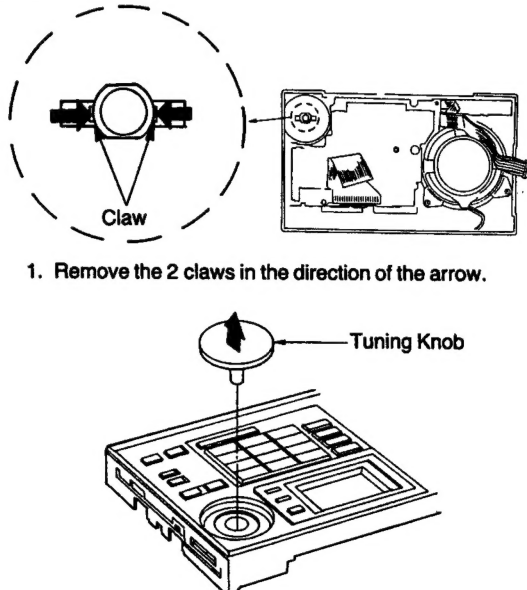
If not so, set the selector to the correct position.

37 World Time Table**38 Stand/Short Wave Frequency Allocation**

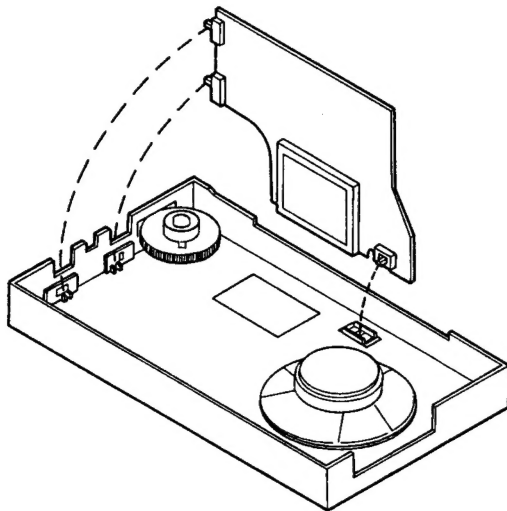
DISASSEMBLY INSTRUCTIONS

| | | | |
|--------------------|---|---|--|
| Ref. No. 1 | Removal of the Telescopic Antenna | Ref. No. 2 | Removal of the Rear Cabinet |
| Procedure 1 |  <ol style="list-style-type: none">1. Remove the screw ①.2. Remove the Telescopic Antenna in the direction of the arrow. | Procedure 1→2 |  <ol style="list-style-type: none">1. Remove the 2 screws (①, ②).2. Remove the 5 screws (③~⑦). |
| Ref. No. 3 | Removal of the Station Reminder | | |
| Procedure 1→2→3 |  <ol style="list-style-type: none">1. Open the Station Reminder. |  <ol style="list-style-type: none">2. Remove the Station Reminder. Be careful not to loose the steel ball and the spring. | |

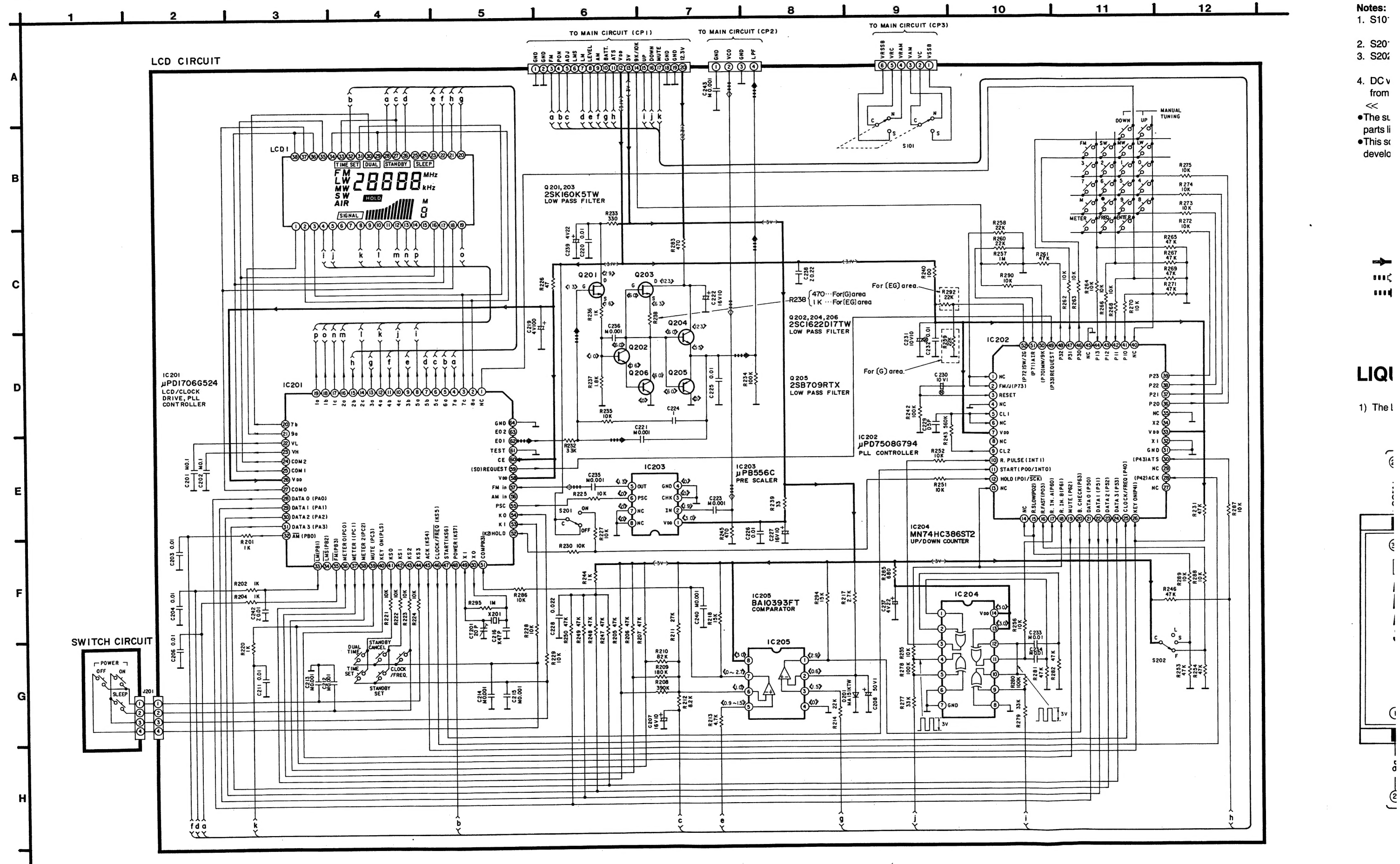
| | | | |
|---|------------------------------------|--|------------------------------|
| Ref. No. 4 | Removal of the Chassis | Ref. No. 5 | Removal of the Main P.C.B. |
| Procedure 1→2→3→4 | | Procedure 1→2→3→4→5 | |
|  <p>1. Remove the solder from speaker terminal.</p>  <p>2. Remove the chassis and P.C.B.</p>  <p>3. Remove the connector (CP1, CP2, CP3).</p> | |  <p>1. Remove the 2 battery terminals and battery spring.</p>  <p>2. Remove the 2 claws and then remove the Main P.C.B. in the direction of the arrow.</p> | |
| Ref. No. 7 | Removal of the Power Switch P.C.B. | Ref. No. 6 | Removal of the L.C.D. P.C.B. |
| Procedure 1→2→3→4→7 | | Procedure 1→2→3→4→6 | |
|  <p>•Remove the screw (1).</p> | |  <p>1. Remove the 6 screws (1-6).</p> <p>2. Remove the claw.</p> | |

| | | | |
|---|--|--|--|
| Ref. No. 8 Procedure 1→2→3→4→6 →8 | Removal of the Buttons and Knobs |  <p>1. Remove the claws in the direction of the arrow ①. 2. Remove the button or knob in the direction of the arrow ②.</p> | |
| Ref. No. 9 | Removal of the Speaker | Ref. No. 10 | Removal of the Tuning Knob |
| Procedure 1→2→3→4→9 |  <p>•Remove the 2 screws (①, ②).</p> | Procedure 1→2→3→4→10 |  <p>1. Remove the 2 claws in the direction of the arrow.</p> <p>2. Remove the Tuning Knob in the direction of the arrow.</p> |

■ L.C.D. P.C.B. Assembly



SCHEMATIC DIAGRAM (for LCD Circuit Section and Switch Circuit Section)



Notes:

1. S10
2. S20
3. S20
4. DC v from <<




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LIQI

1) The l

1. S101: AM mode select switch in "NORMAL" position.
(N...NORMAL, S...SSB)
2. S201: Hold switch.
3. S202: Rotary tuning step select switch in "FAST" position.
(L...LOCK, S...SLOW, F...FAST)
4. DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.
 << >> ...SW position

- The supply parts number is described alone in the replacement parts list.
- This schematic diagram may be modified at any time with the development of new technology.

 +B Voltage Line
 FM, LW, MW, SW VCO In Line
 FM, LW, MW, SW Vcap Out Line

1) The LCD and IC201 are connected in the following way:

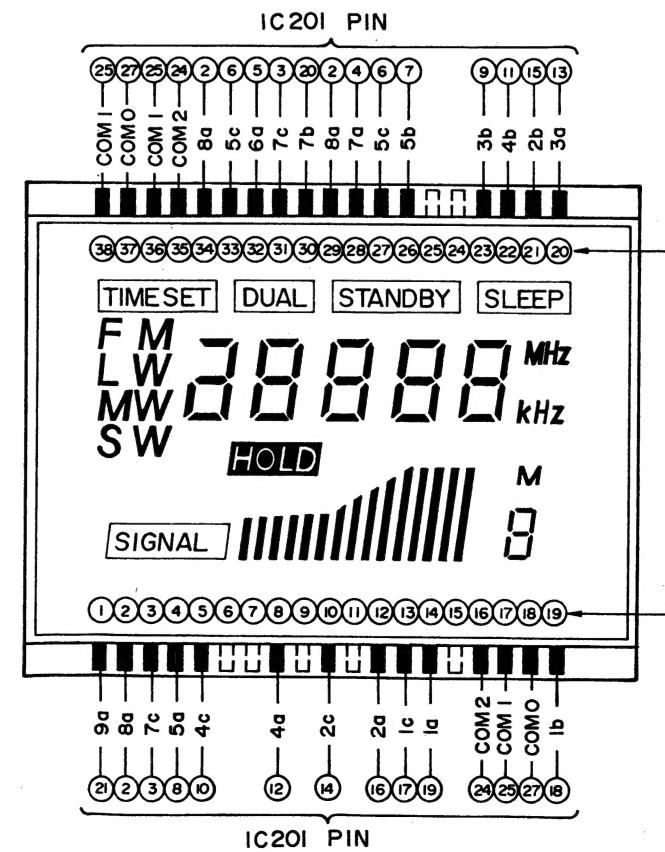


Fig. 1

[illegible]

2) The common and segment terminals of the LCD are connected in the following way:

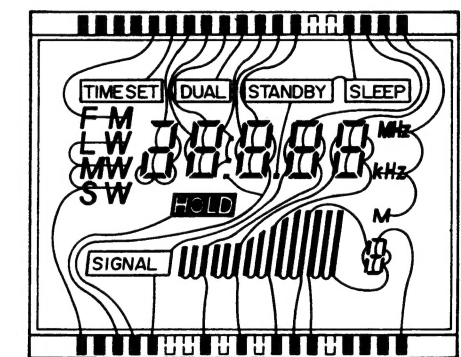


Fig. 2 (Segment)

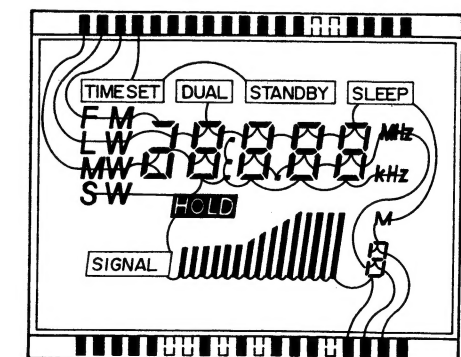
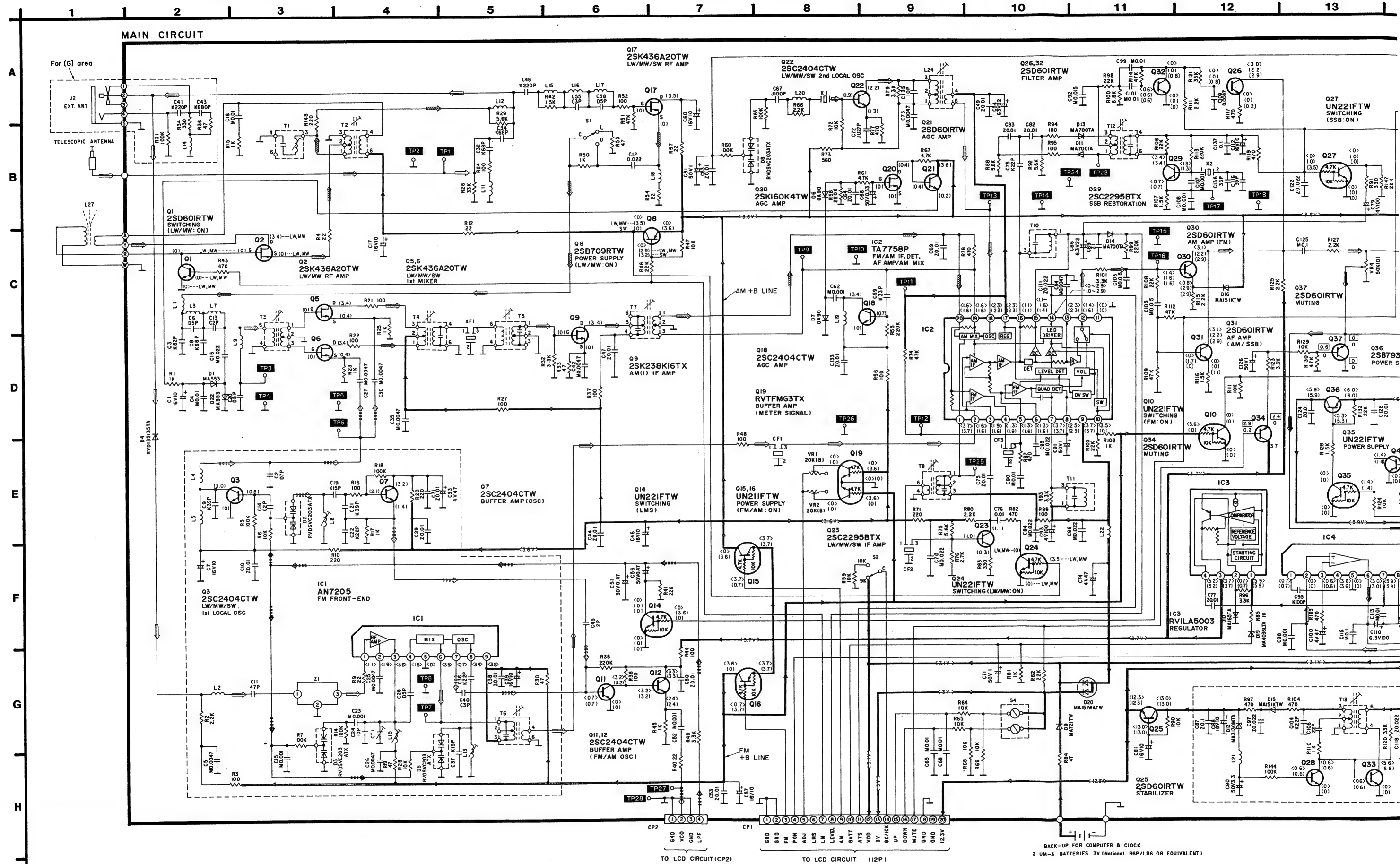
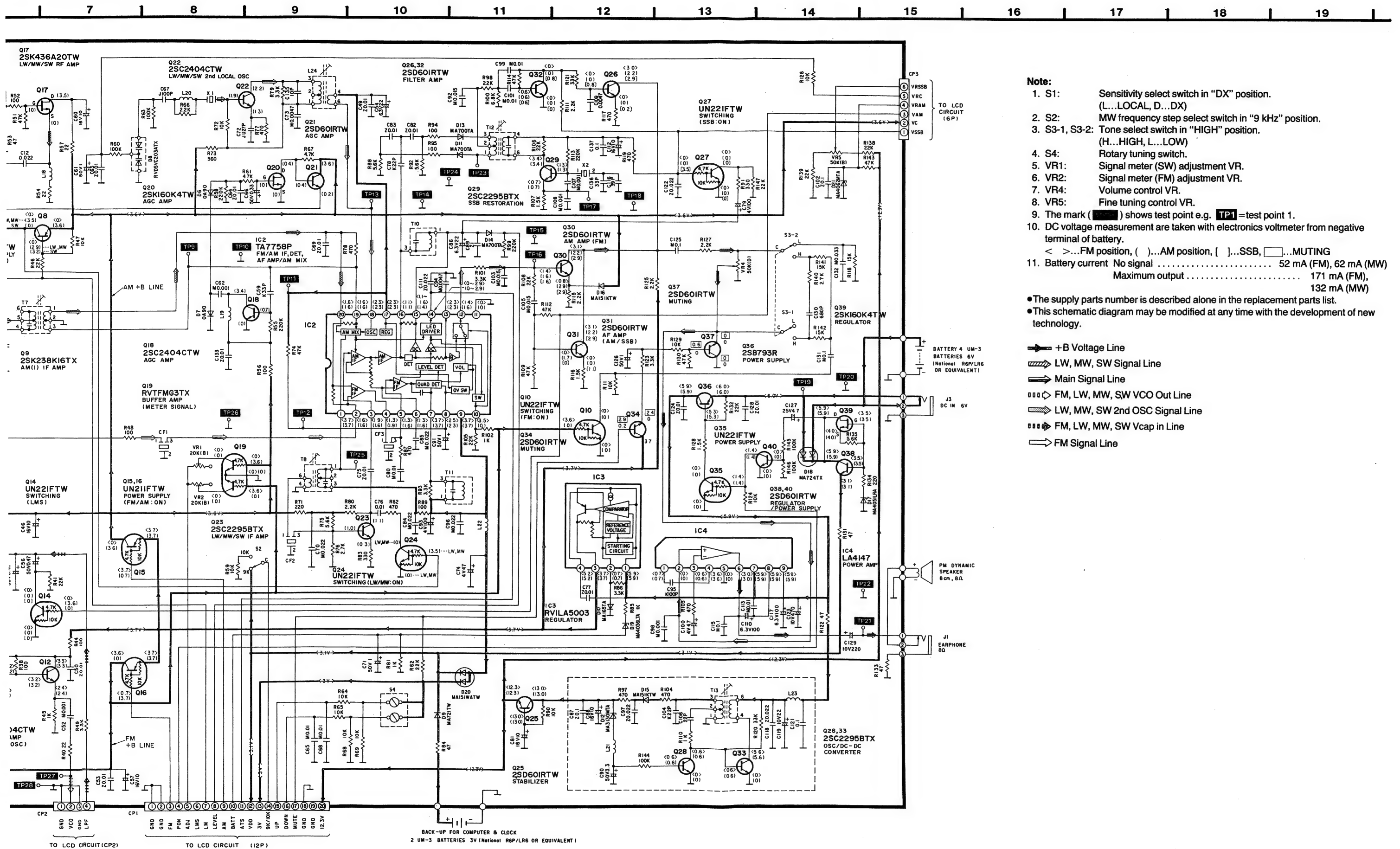


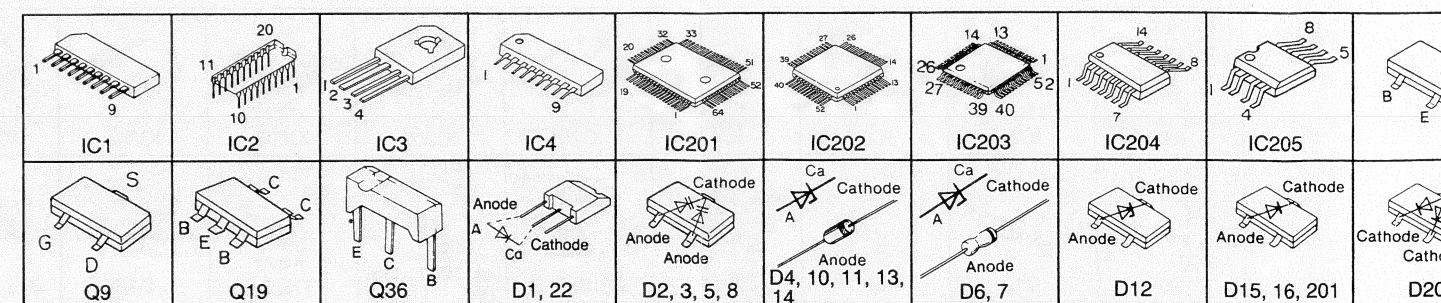
Fig. 3 (Common)

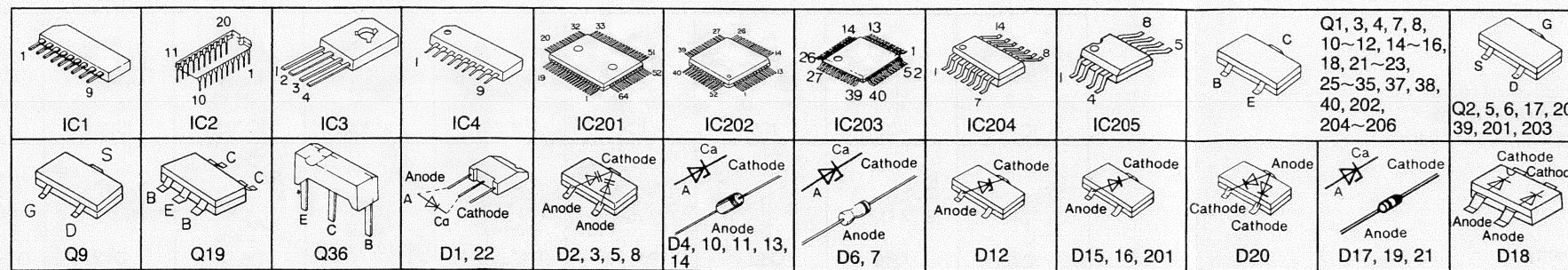
SCHEMATIC DIAGRAM (for Main Circuit Section)





● This circuit board diagram may be modified at any time with the development of new technology.





PANA-03551 / DRUCK 6

MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT

Note:

- | | | | | | | | | | | | | | | | |
|--|--|-------------------|------------------|----------------|---------------|----------------|---------------|-----------------|------------------|-----------------|---------------------|----------------|------------------|--|------------------|
| <ol style="list-style-type: none"> 1. Set power on switch to ON. 2. Set display select switch to FREQUENCY. 3. Set volume control to MAXIMUM. 4. Set tone select switch to HIGH. 5. Set hold switch to OFF. 6. Set sens switch to DX. 7. Set MW frequency step select switch to 9 kHz. 8. Set band switch to LW, MW, SW or FM. | <ol style="list-style-type: none"> 9. Set SSB switch to OFF or ON. 10. Set power source voltage to 6 V DC. 11. Memorize the following frequency. <table border="0"> <tr> <td>FM CH1...87.5 MHz</td> <td>LW CH1...155 kHz</td> </tr> <tr> <td>CH2...90.0 MHz</td> <td>CH2...450 kHz</td> </tr> <tr> <td>CH3...98.0 MHz</td> <td>CH3...459 kHz</td> </tr> <tr> <td>CH4...106.0 MHz</td> <td>MW CH1...605 kHz</td> </tr> <tr> <td>CH5...108.0 MHz</td> <td>SW CH1...10,000 MHz</td> </tr> <tr> <td>CH6...94.0 MHz</td> <td>CH2...15,000 MHz</td> </tr> <tr> <td></td> <td>CH3...29,999 MHz</td> </tr> </table> | FM CH1...87.5 MHz | LW CH1...155 kHz | CH2...90.0 MHz | CH2...450 kHz | CH3...98.0 MHz | CH3...459 kHz | CH4...106.0 MHz | MW CH1...605 kHz | CH5...108.0 MHz | SW CH1...10,000 MHz | CH6...94.0 MHz | CH2...15,000 MHz | | CH3...29,999 MHz |
| FM CH1...87.5 MHz | LW CH1...155 kHz | | | | | | | | | | | | | | |
| CH2...90.0 MHz | CH2...450 kHz | | | | | | | | | | | | | | |
| CH3...98.0 MHz | CH3...459 kHz | | | | | | | | | | | | | | |
| CH4...106.0 MHz | MW CH1...605 kHz | | | | | | | | | | | | | | |
| CH5...108.0 MHz | SW CH1...10,000 MHz | | | | | | | | | | | | | | |
| CH6...94.0 MHz | CH2...15,000 MHz | | | | | | | | | | | | | | |
| | CH3...29,999 MHz | | | | | | | | | | | | | | |

EQUIPMENT REQUIRED

- | | |
|--|--|
| <ol style="list-style-type: none"> 1. Frequency counter. 2. Oscilloscope (Dual dimension). 3. RF voltmeter. | <ol style="list-style-type: none"> 4. DC digital voltmeter. 5. Ampere meter. 6. Signal generator. |
|--|--|

■ FM VCO, SW VCO, SW 2nd LOCAL OSC ALIGNMENT

| BAND | FREQUENCY DISPLAY SETTING | DC DIGITAL VOLTMETER | FREQUENCY COUNTER | ADJUSTMENT (Refer to Fig. 1) | REMARKS |
|----------------------------|---------------------------------|----------------------------|----------------------------|---------------------------------|---|
| FM VCO ALIGNMENT | | | | | |
| (1) FM | 108.00 MHz (CH5) | TP27 ...(+) TP28 ...(-) | — | L13 | Adjust L13 for 9.00 ±0.1 V reading on DC digital voltmeter. |
| SW VCO ALIGNMENT | | | | | |
| (2) SW | 29,999 MHz (CH3) | " | — | L8 | Adjust L8 for 10.00 ±0.1 V reading on DC digital voltmeter. |
| SW 2nd LOCAL OSC ALIGNMENT | | | | | |
| (3) SW | 10,000 MHz (CH1) | — | TP13 ...(+) TP14 ...(-) | L24 | Adjust L24 for 55,395 MHz (EG...55,386 MHz) ±100 Hz reading on frequency counter. |

■ SSB ALIGNMENT

| BAND | FREQUENCY DISPLAY SETTING | INDICATOR (ELECTRONICS VOLTMETER or OSCILLOSCOPE) | ADJUSTMENT (Refer to Fig. 1) | REMARKS |
|--------|------------------------------|---|---------------------------------|----------------------------|
| (4) SW | — | TP23 ...(+) TP24 ...(-) | T12 | Adjust for maximum output. |

■ FM IF, RF, AUTO STOP ZERO VOLTAGE ALIGNMENT

| BAND | SIGNAL GENERATOR or SWEEP GENERATOR | | FREQUENCY DISPLAY SETTING | INDICATOR (ELECTRONICS VOLTMETER or OSCILLOSCOPE) | ADJUSTMENT (Refer to Fig. 1) | REMARKS |
|-----------------|-------------------------------------|---|---------------------------|---|---|--|
| | CONNECTIONS | FREQUENCY | | | | |
| FM-IF ALIGNMENT | | | | | | |
| (5) | FM | Connect to test point TP7 through 0.001 μF. Negative side to test point TP8 | 10.7 MHz (400 Hz SWP.) | Point of non-interference. (on/ about 90 MHz) | Connect vert. amp. of scope to test point TP16 . Negative side to test point TP15 . | T6 (FM 1st IFT) Adjust of maximum amplitude. (Refer to fig. 2.) |
| (6) | FM | " | " | " | T11 (FM 2nd IFT) | Adjust for maximum amplitude. (Refer to fig. 3.) |

| BAND | SIGNAL GENERATOR or SWEEP GENERATOR | | FREQUENCY DISPLAY SETTING | INDICATOR (ELECTRONICS VOLTMETER or SCOPE) | ADJUSTMENT (Refer to Fig. 1) | REMARKS |
|-------------------------------------|---|--------------------------|---------------------------|---|------------------------------|--|
| | CONNECTIONS | FREQUENCY | | | | |
| FM-RF ALIGNMENT | | | | | | |
| FM | Connect to test point TP1 through FM dummy antenna. Negative side to test point TP2 . | 90.00 MHz | 90.00 MHz (CH2) | Connect vert. amp. of scope to test point TP21 . Negative side to test point TP22 . | L10 | Adjust for maximum output. |
| FM | " | 106.00 MHz | 106.00 MHz (CH4) | " | CT1 | Adjust for maximum output. Repeat steps (6), (7). |
| FM-AUTO STOP ZERO VOLTAGE ALIGNMENT | | | | | | |
| FM | Connect to test point TP1 through FM dummy antenna. Negative side to test point TP2 . | 98.00 MHz (40 dB DEMOD.) | 98.00 MHz (CH3) | Connect vert. amp. of scope to test point TP11 . Negative side to test point TP12 . | T11 | Adjust T9 for 0 ±0.05 V electronics voltmeter reading. |

■ SW IF, LW IF TRAP ALIGNMENT

| BAND | SIGNAL GENERATOR or SWEEP GENERATOR | | FREQUENCY DISPLAY SETTING | INDICATOR (ELECTRONICS VOLTMETER or OSCILLOSCOPE) | ADJUSTMENT (Refer to Fig. 1) | REMARKS |
|-----------------------|-------------------------------------|--|--|--|---|---|
| | CONNECTIONS | FREQUENCY | | | | |
| SW-IF (1st) ALIGNMENT | | | | | | |
| (10) | SW | TP3 ...(+) TP4 ...(-) | 55,843 MHz 95 dB, 4% Mod. with 1 kHz (Frequ. Mod.) | 10,000 MHz (CH1) | Connect vert. amp. of scope to test point TP9 . Negative side to test point TP10 . | T4 T5 T7 Adjust for flat and maximum output. (Refer to Fig. 4) |
| (11) | SW | " | 10,000 MHz 30% Mod. with 400 Hz (Ampli. Mod.) | 10,000 MHz (CH1) | Output meter across Voice coil. | T7 Adjust for maximum output. |
| SW-IF (2nd) ALIGNMENT | | | | | | |
| (12) | SW | TP25 ...(+) TP26 ...(-) | 450 kHz...(G) 459 kHz...(EG) 30% Mod. with 400 Hz. | Point of noninterference. (on/about 600 kHz). | Connect vert. amp. of scope to test point TP16 . Negative side to test point TP15 . | T8 T10 Adjust for maximum output. |
| LW-IF TRAP ALIGNMENT | | | | | | |
| (13) | LW | Fashion loof of several turns of wire and radiate signal into loop of receiver. | 450 kHz...(G) 459 kHz...(EG) 40 dB, 30% Mod. with 400 Hz | 450 kHz...(G) 459 kHz...(EG) (CH2) | Output meter across Voice coil. | T1 (Trap Coil) Adjust for maximum output. |

■ SIGNAL METER ALIGNMENT

| BAND | SIGNAL GENERATOR or SWEEP GENERATOR | | FREQUENCY DISPLAY SETTING | ADJUSTMENT (Refer to Fig. 1) | REMARKS |
|---------|---|--------------------|---------------------------|------------------------------|---|
| | CONNECTIONS | FREQUENCY | | | |
| (14) FM | Fashion loof of several turns of wire and radiate signal into loop of receiver. | 94.00 MHz (30 dB) | 94.00 MHz (CH6) | VR2 | ●Adjust VR2 50 that the all signal indicator appears. (Refer to Fig. 6) |
| (15) SW | " | 15,000 MHz (45 dB) | 15,000 MHz (CH2) | VR1 | ●Adjust VR1 so that the all signal indicator appears. (Refer to Fig. 6) |

CLOCK ALIGNMENT

| BAND | FREQUENCY DISPLAY SETTING | FREQUENCY COUNTER | ADJUSTMENT (Refer to Fig. 5) | REMARKS | | |
|---------|---------------------------------------|--------------------------|---------------------------------|---|------|----------------------|
| (16) SW | 29,999 MHz...(G) 26,100 MHz...(EG) | TP5 ...(+) TP6 ...(-) | CT201 | Adjust the frequencies according to room temperature. | | |
| | | | | Room Temperature | Area | Frequency |
| | | | | 8°C≤t<22°C | (EG) | 81,945000 MHz±300 Hz |
| | | | | | (G) | 85,844000 MHz±300 Hz |
| | | | | 22°C≤t<26°C | (EG) | 81,944800 MHz±300 Hz |
| | | | | | (G) | 85,843800 MHz±300 Hz |
| | | | | 26°C≤t<30°C | (EG) | 81,944500 MHz±300 Hz |
| | | | | | (G) | 85,843500 MHz±300 Hz |
| | | | | 30°C≤t<33°C | (EG) | 81,944100 MHz±300 Hz |
| | | | | | (G) | 85,843100 MHz±300 Hz |

ALIGNMENT POINT

• Please refer to Circuit Board and Wiring Connection Diagram for test point locations.

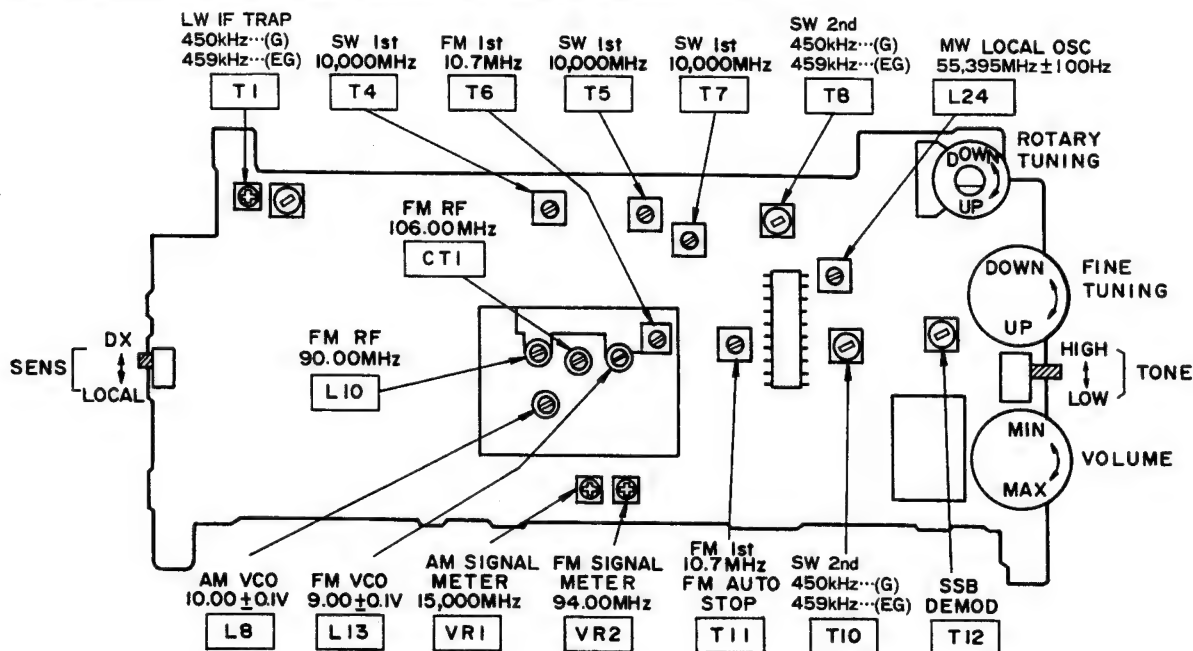


Fig. 1

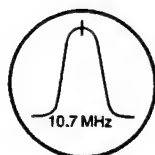


Fig. 2



Fig. 3

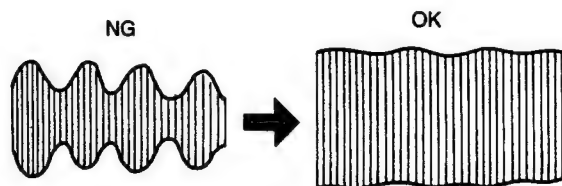


Fig. 4

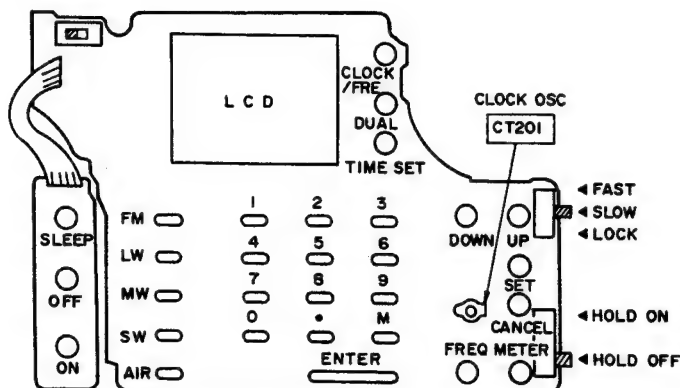
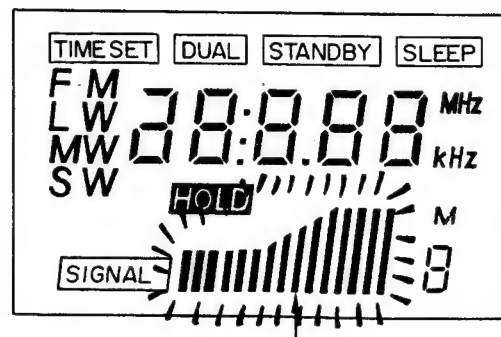


Fig. 5



Signal Indicator

Fig. 6

IC TERMINAL FUNCTION

■ IC201 (UPD1706G524)

1) Terminal view

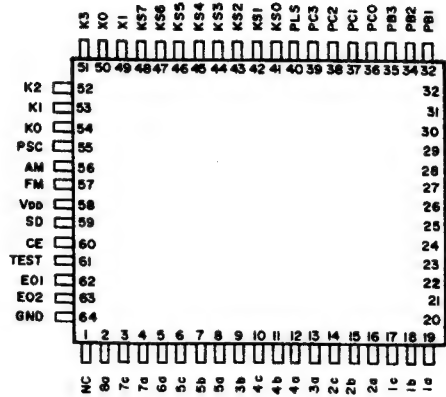


Fig. 1

2) Block diagram

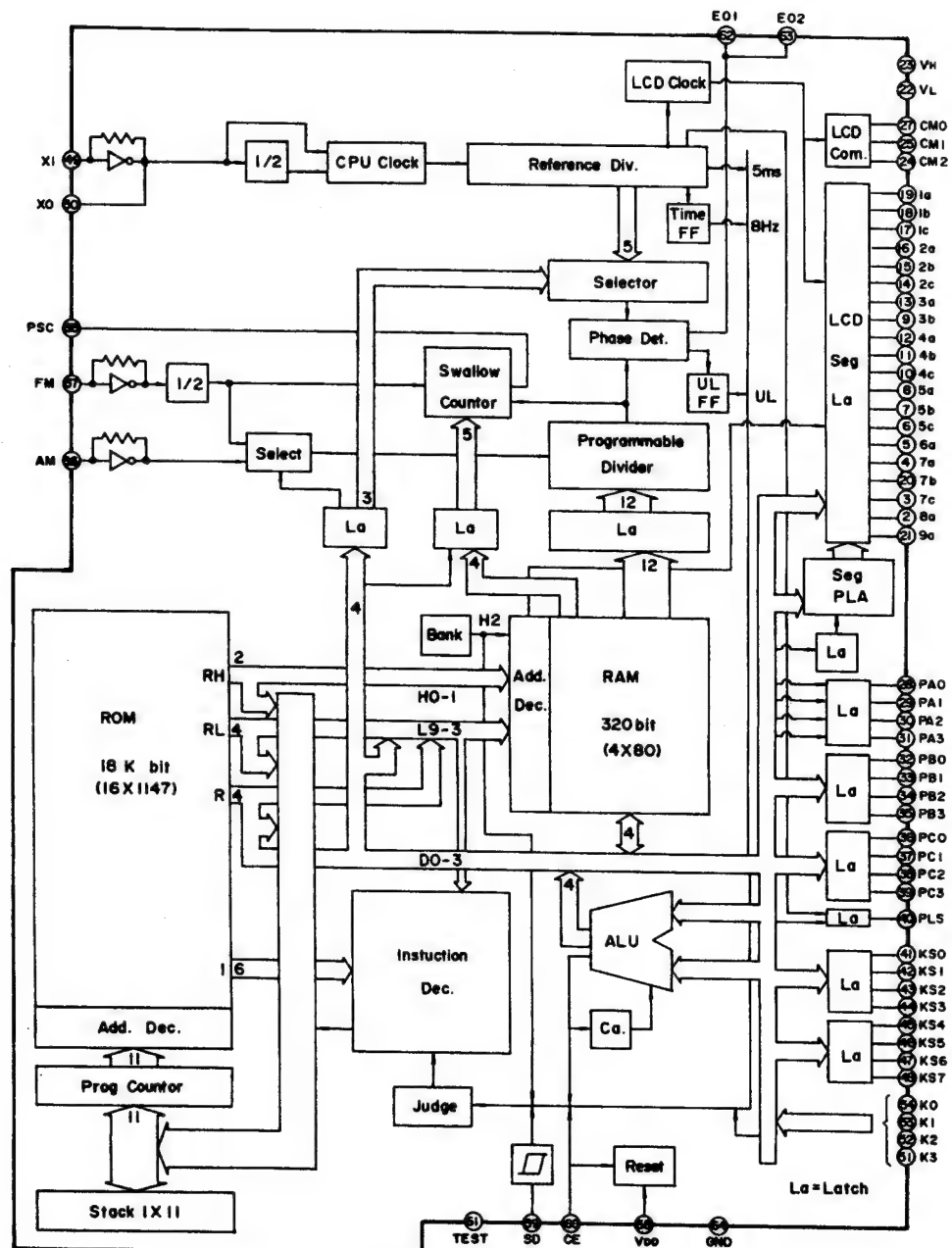
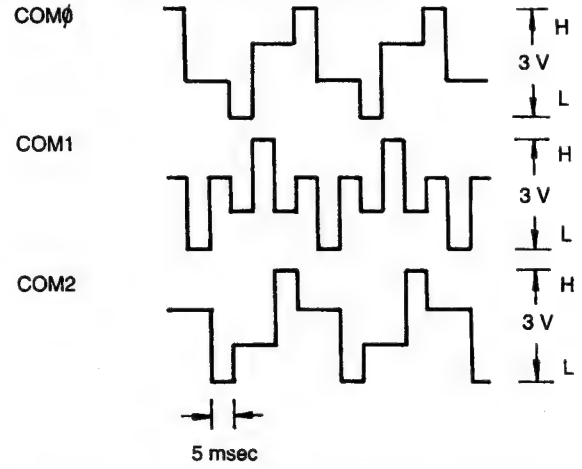
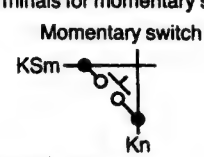
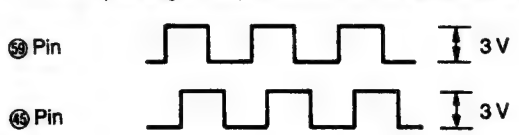


Fig. 2

3) Explanation of each terminal

| Pin. No. | Symbol | Description |
|----------------------|---|---|
| 2~21 | 1a~9a, 1b~5b, 7b 1c, 2c, 4c, 5c, 7c | Output terminals for LCD segment signals. ($\frac{1}{3}$ duty and $\frac{1}{3}$ bias LCD drive.) Refer to Fig. 3 for output waveforms. |
| 22 23 | V_L V_H | Intermediate voltage output terminals for LCD. In this model, a 0.1 μ F capacitor is connected to stabilize the intermediate voltage. |
| 24 25 27 | COM2 COM1 COM ϕ | Terminals for LCD common signal output.  |
| 26, 58 | V_{DD} | A voltage of 3 V \pm 10% supply to this terminal during device. |
| 28~31 | PA0~PA3 | Data signal output terminal. |
| 32 33 34 35 | PB ϕ PB1 PB2 PB3 | Band select output terminals. Outputs a low signal during LW, MW and SW. Outputs a low signal during LW and MW. Outputs a low signal during LW, MW and SW. Outputs a low signal during FM. |
| 36 37 38 | PC ϕ PC1 PC2 | Level meter comparator output terminals. |
| 39 | PC3 | Muting output terminal. The noise generated from the speaker when the power is turned on and off is muted. |
| 40 | PLS | Key on terminal. Outputs a low when a key on the IC201 side is pressed. |
| 41~44 | KS ϕ ~KS3 | Key return signal source output terminals for momentary switch on the key matrix.  |
| 45 59 | KS4 SD | Accept signal output terminal for data to IC202. High during operation. Transfer request signal output terminal or data to IC202. High during operation.  |

| Pin. No. | Symbol | Description |
|----------|----------------|---|
| 46 | KS5 | Status control output terminal for IC202. High during time setting. |
| 47 | KS6 | Automatic control output terminal for IC202. High when power is on and during times setting. |
| 48 | KS7 | Radio power on/off output terminal. High when radio is on. |
| 49 50 | X1 X ϕ | Terminals used for connecting a quartz oscillator. Connects a 150 kHz quartz oscillator. |
| 51 | K3 | Level meter comparator input terminal. |
| 52 | K2 | Hold signal input terminal. |
| 53 54 | K1 K ϕ | Terminals for key matrix key return signal input. |
| 55 | PSC | Select signal output terminal for prescaler divider ratio. This terminal generates pulses at the leading edge of the signal applied to the FM terminal (pin 57) and continues to do so until the contents of the internal swallow counter are 0. At this time, the divider ratio of the prescaler is $1/17$. When the contents of the swallow counter become 0, this terminal goes low and the divider ratio of the prescaler becomes $1/16$. |
| 57 | FM | Input terminal for the FM local oscillator (VCO) output divided by $1/16$ or $1/17$ by the prescaler. |
| 60 | CE | Device select signal input terminal. Set the terminal high to select a device and low to deselect a device. |
| 61 | TEST | Terminal to test the device. Normally connected to "GND". |
| 62 | E02 | PLL error output terminal. The output signal is output to the LPF (Q201–Q206). If the divided oscillation frequency is higher than the standard frequency, a high signal is output. If lower, a low signal is output. If the same, the terminal floats. |
| 64 | GND | Ground terminal. |

4) Output signal waveforms of LCD segment

These output signal waveforms are produced when the frequency is SW 15,000 MHz, waveforms of the segments vary with frequency.

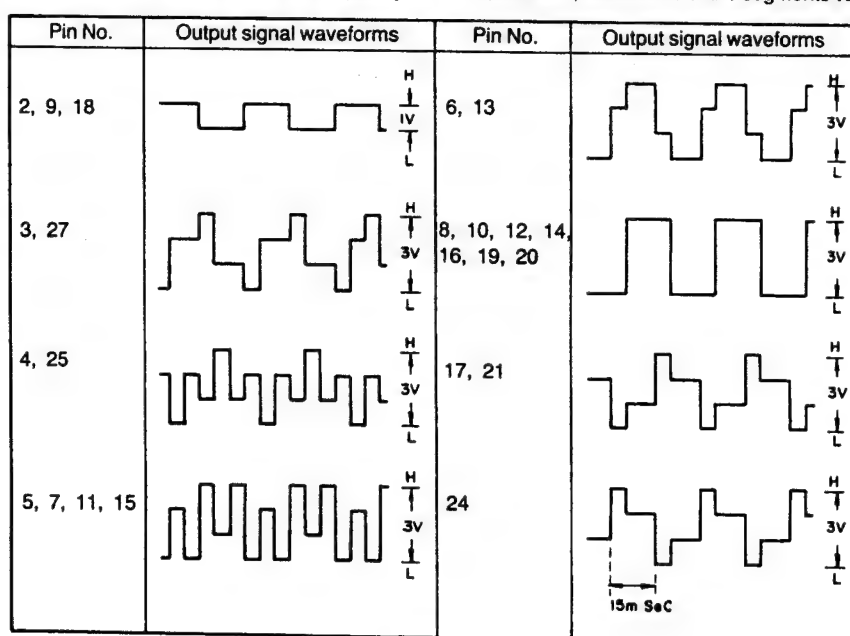


Fig. 3

■ IC202 (UPD7508G794)

1) Terminal view

μPD7508G732 (IC202)

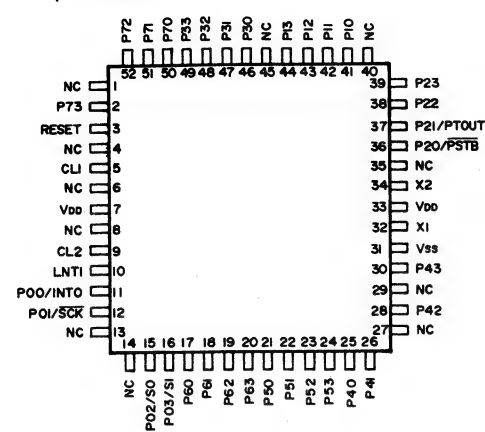


Fig. 4

2) Block diagram

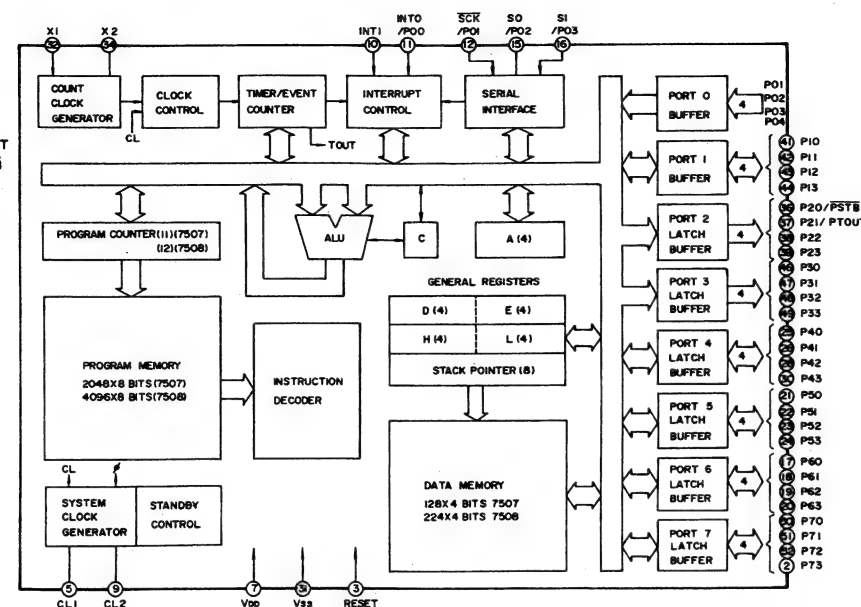


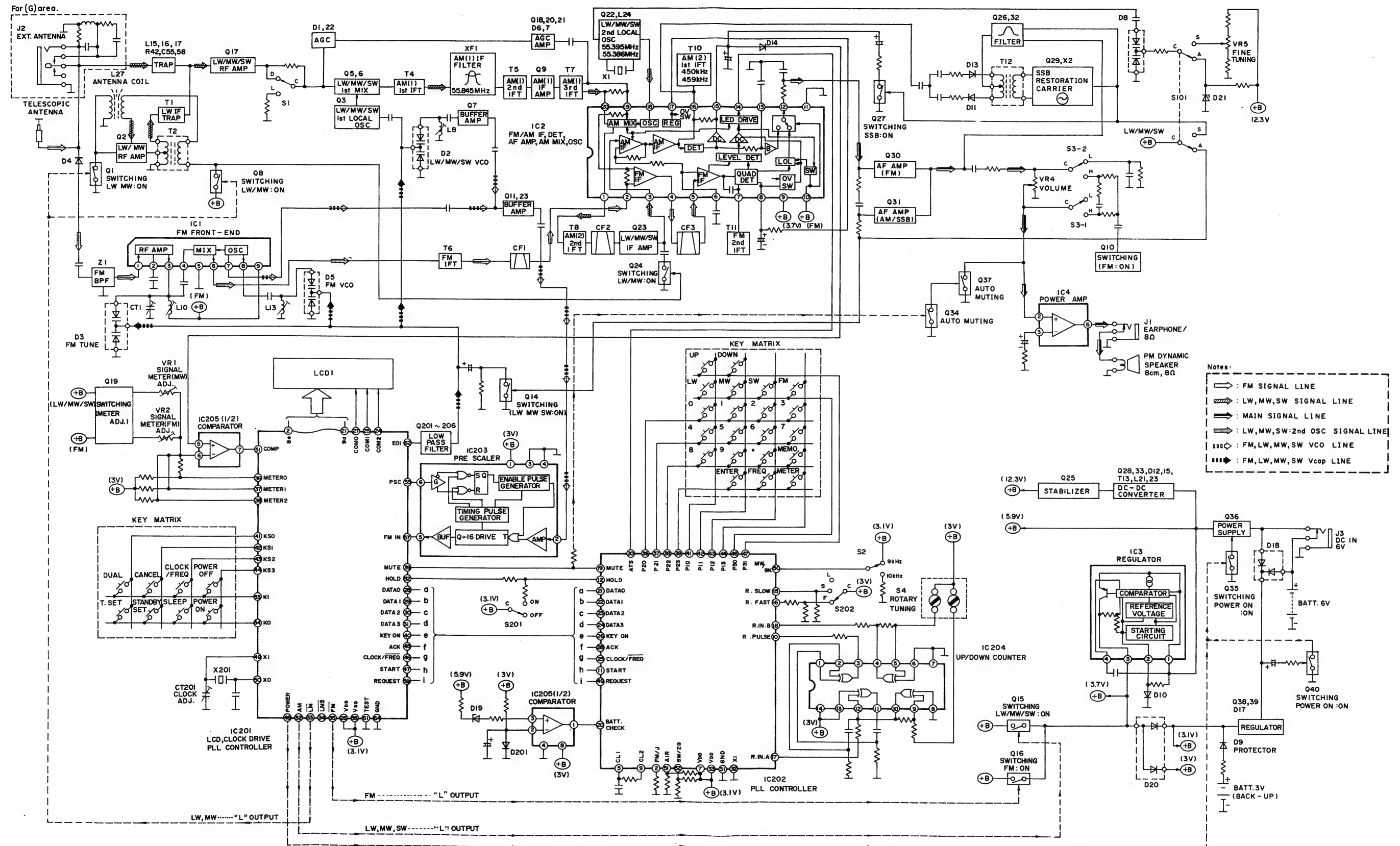
Fig. 5

3) Explanation of each terminal

| Pin No. | Symbol | Description |
|----------------------|--------------------|--|
| 2 | P73 | FM receiving frequency select terminal. Low=87.5–108.0 MHz (for main unit) High=76.0–108.0 MHz |
| 3 | REST | Reset signal input terminal. |
| 5 | CL1 | Clock signal input terminal. |
| 7, 33 | V _{DD} | A voltage of 3 V±10% supply to this terminal during device. |
| 9 | CL2 | Clock signal output terminal. |
| 10 17 18 | INT1 P60 P61 | Trigger pulse input terminal for rotary tuning. Data input terminal for rotary tuning. Data input terminal for rotary tuning. During the down mode (leading edge of the rotary pulse, ROTARY INPUT A=ROTARY INPUT B): |
| ⑩ Pin (ROTARY PULSE) | | 3 V max. 85 μs |
| ⑪ Pin (ROTARY IN. A) | | 3 V |
| ⑫ Pin (ROTARY IN. B) | | 3 V |
| | | During the up mode (leading edge of the rotary pulse, ROTARY INPUT A=ROTARY INPUT B): |
| ⑩ Pin (ROTARY PULSE) | | 3 V |
| ⑪ Pin (ROTARY IN. A) | | 3 V |
| ⑫ Pin (ROTARY IN. B) | | 3 V |

| Pin No. | Symbol | Description |
|-------------------|----------------------------|---|
| 11 | PO0/INT0 | Start signal input terminal. |
| 12 | PO1/SCK | Hold input terminal. A high signal sets the key lock mode. |
| 15 | PO2/S0 | Rotary tuning speed select input terminal. High for slow and low for lock. |
| 16 | PO3/S1 | Rotary tuning speed select input terminal. High for fast and low for lock. |
| 19 | P62 | Tuning output terminal. During rotary tuning or manual tuning (up or down), a high signal is output from this terminal. |
| 20 | P63 | Battery 4 V check input terminal. Monitors in intervals of 100 μs. If low for 3 consecutive times, a flashing "E" is displayed and 7 seconds later the power is switched off. |
| 21~24 | P50~P53 | Data signal output terminal. |
| 25 | P40 | CLOCK/FREQ display input terminal. High for "CLOCK" display and low for "FREQ" display. |
| 26 | P41 | Key on terminal. Low when a key on the IC201 side is pressed. |
| 28 49 | P42 P33 | Accept signal input terminal for data from IC201. High during operation. Transfer request signal input terminal for data from IC201. High during operation. |
| | | <div> <div>⑩ Pin</div> 3 V </div> <div> <div>⑫ Pin</div> 3 V </div> |
| 30 | P43 | ATS (Auto scan stop) input terminal. If a low signal is input during auto scan for 118 msec or longer, the scan stops. |
| 31 | GND | Ground terminal. |
| 32 | X1 | Ground terminal. |
| 36~39 46 47 | PSTB/P20~P23 P30 P31 | Key return signal source output terminals for the momentary switches in the key matrix. |
| | | <div> <div>Momentary switch</div> </div> |
| 41~44 | P10~P13 | Terminals for key matrix key return signal input. |
| 50 | P70 | MW 9/10 kHz select terminal. High for 9 kHz and low for 10 kHz. |
| 51 | P71 | Air band country select terminal. High for Japan and low for other countries. |
| 52 | P72 | SW band country select terminal. High for Germany and low for other countries. |

BLOCK DIAGRAM



Notes : * Important safety notice:

- Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.
- * Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
- Parts without these indications can be used for all areas.

| Ref. No. | Part No. | Part Name & Description | Remarks | Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|--------------------------|---------|----------|--------------|------------------------------|---------|
| | | INTEGRATED CIRCUITS | | Q35 | UN221FTW | TRANSISTOR | |
| IC1 | AN7205 | IC, FRONT END | | Q36 | 2SB793R | TRANSISTOR | |
| IC2 | TA7758P | IC, FM/AM IF, DET, etc | | Q37 | 2SD601RTW | TRANSISTOR | |
| IC3 | RV1LA5003 | IC, REGULATOR | | Q38 | 2SD601RTW | TRANSISTOR | |
| IC4 | LA4147 | IC, POWER AMP | | Q39 | 2SK160K4TW | TRANSISTOR | |
| IC201 | UPD1706G524 | IC, LCD/CLOCK DRIVE, PLL | | Q40 | 2SD601RTW | TRANSISTOR | |
| IC202 | UPD7508G794 | IC, PLL COUNTER | | Q201 | 2SK160K5TW | TRANSISTOR | |
| IC203 | RV1UPB556C | IC, PRE SCALER | | Q202 | 2SC1622D17TW | TRANSISTOR | |
| IC204 | MN74HC386ST2 | IC, UP/DOWN COUNTER | | Q203 | 2SK160K5TW | TRANSISTOR | |
| IC205 | BA10393FT | IC, COMPARATOR | | Q204 | 2SC1622D17TW | TRANSISTOR | |
| | | TRANSISTORS | | Q205 | 2SB709RTX | TRANSISTOR | |
| | | | | Q206 | 2SC1622D17TW | TRANSISTOR | |
| | | | | | | DIODES | |
| Q1 | 2SD601RTW | TRANSISTOR | | D1 | MA553 | DIODE | |
| Q2 | 2SK436A20TW | TRANSISTOR | | D2 | RVDSVC203ATX | DIODE | |
| Q3 | 2SC2404CTW | TRANSISTOR | | D3 | RVDSVC203ATX | DIODE | |
| Q5 | 2SK436A20TW | TRANSISTOR | | D4 | RVD1SS135TA | DIODE | |
| Q6 | 2SK436A20TW | TRANSISTOR | | D5 | RVDSVC203ATX | DIODE | |
| Q7 | 2SC2404CTW | TRANSISTOR | | D6 | 0A90 | DIODE | |
| Q8 | 2SB709RTW | TRANSISTOR | | D7 | 0A90 | DIODE | |
| Q9 | 2SK238K16TX | TRANSISTOR | | D8 | RVDSVC203ATX | DIODE | |
| Q10 | UN221FTW | TRANSISTOR | | D9 | MA721TW | DIODE | |
| Q11 | 2SC2404CTW | TRANSISTOR | | D10 | MA165TA | DIODE | |
| Q12 | 2SC2404CTW | TRANSISTOR | | D11 | MA700TA | DIODE | |
| Q14 | UN221FTW | TRANSISTOR | | D12 | MA3130MTW | DIODE | |
| Q15 | UN211FTW | TRANSISTOR | | D13 | MA700TA | DIODE | |
| Q16 | UN211FTW | TRANSISTOR | | D14 | MA700TA | DIODE | |
| Q17 | 2SK436A20TW | TRANSISTOR | | D15 | MA151KTW | DIODE | |
| Q18 | 2SC2404CTW | TRANSISTOR | | D16 | MA151KTW | DIODE | |
| Q19 | RVTFMG3TX | TRANSISTOR | | D17 | MA4051LRA | DIODE | |
| Q20 | 2SK160K4TW | TRANSISTOR | | D18 | MA724TX | DIODE | |
| Q21 | 2SD601RTW | TRANSISTOR | | D19 | MA4036LTA | DIODE | |
| Q22 | 2SC2404CTW | TRANSISTOR | | D20 | MA151WATW | DIODE | |
| Q23 | 2SC2295BTX | TRANSISTOR | | D21 | MA4062MTA | DIODE | |
| Q24 | UN221FTW | TRANSISTOR | | D22 | MA553 | DIODE | |
| Q25 | 2SD601RTW | TRANSISTOR | | D201 | MA151KTW | DIODE | |
| Q26 | 2SD601RTW | TRANSISTOR | | | | VARIABLE RESISTORS | |
| Q27 | UN221FTW | TRANSISTOR | | | | | |
| Q28 | 2SC2295BTX | TRANSISTOR | | VR1 | EVND4AA00B24 | V. RESISTOR, SIGNAL METER | |
| Q29 | 2SC2295BTX | TRANSISTOR | | VR2 | EVND4AA00B24 | V. RESISTOR, SIGNAL METER | |
| Q30 | 2SD601RTW | TRANSISTOR | | VR4 | EVUJ05T02D54 | V. RESISTOR, VOLUME | |
| Q31 | 2SD601RTW | TRANSISTOR | | VR5 | EVUJ05T02B54 | V. RESISTOR, BATT ERROR ADJ. | |
| Q32 | 2SD601RTW | TRANSISTOR | | | | COMPONENT COMBINATIONS | |
| Q33 | 2SC2295BTX | TRANSISTOR | | | | | |
| Q34 | 2SD601RTW | TRANSISTOR | | | | | |

| Ref. No. | Part No. | Part Name & Description | Remarks | Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|----------|--------------|-------------------------|---------|
| Z1 | FXABPMB8L | COMPONENT COMBINATION | #Z | | | OSCILLATORS | |
| | | COILS | | X1 | RSXB55M4W01 | OSCILLATOR | <G> |
| L1 | RLQZPR47MT-Y | COIL | | X1 | RSXB55M3W01 | OSCILLATOR | <EG> |
| L2 | RLQY25S5-0 | COIL | | X2 | RSXZ450KM01 | OSCILLATOR | <G> |
| L3 | RLQZP1R0MT-Y | COIL | | X2 | RSXZ459KM01 | OSCILLATOR | <EG> |
| L4 | RLQZPR22MT-Y | COIL | | X201 | RSXD150KS01 | OSCILLATOR | |
| L5 | RLQZPR56MT-Y | COIL | | | | JUMPER | |
| L7 | RLQZP1R5MT-Y | COIL | | | | | |
| L8 | RL04N253-0 | COIL | | RJ1 | RRD18XK000V | CHIP JUMPER | |
| L9 | RLQZP1R0MT-Y | COIL | | RJ2 | RRD18XK000V | CHIP JUMPER | |
| L10 | RL04N125-0 | COIL | | RJ4 | RRJ6GCJ000TE | CHIP JUMPER | |
| L11 | RLQZP181KT-Y | COIL | | RJ5 | RRD18XK000V | CHIP JUMPER | |
| L12 | RLQZP680KT-Y | COIL | | RJ6 | RRJ6GCJ000TE | CHIP JUMPER | |
| L13 | RL04N125-0 | COIL | | RJ7 | RRJ6GCJ000TE | CHIP JUMPER | |
| L14 | RLQZP220KT-Y | COIL | <G> | RJ8 | RRJ6GCJ000TE | CHIP JUMPER | |
| L15 | RLQZP688KT-Y | COIL | | RJ207 | RRJ6GCJ000TE | CHIP JUMPER | |
| L16 | RLQZP1R0MT-Y | COIL | | RJ208 | RRJ6GCJ000TE | CHIP JUMPER | |
| L17 | RLQZPR47MT-Y | COIL | | RJ209 | RRJ6GCJ000TE | CHIP JUMPER | |
| L18 | RLQZP221KT-Y | COIL | | | | | |
| L19 | RLQZPR47MT-Y | COIL | | | | | |
| L20 | RLQY15G5-0 | COIL | | | | TRIMMER CAPACITORS | |
| L21 | RLQZP101KT-Y | COIL | | CT1 | RCV10AF1-S | TRIMMER CAPACITOR | |
| L22 | RLQZP470KT-Y | COIL | | CT201 | RCV20AF1-S | TRIMMER CAPACITOR | |
| L23 | RLQZP101KT-Y | COIL | | | | SWITCHES | |
| L24 | RL03A001-T | COIL | | | | | |
| L27 | RLF6019-0 | ANT COIL | | S1 | RSS2B43YA-M | SW, DX-LOCAL | |
| | | TRANSFORMERS | | S2 | QSS1228A | SW, 9K/10K | |
| T1 | RL12A004-T | TRANSFORMER | | S3 | RSS2B004-Q | SW, TONE | |
| T2 | RLA6C1-T | TRANSFORMER | | S4 | EVQWHF1025B | SW, ENCODER | |
| T3 | RLA3211-0 | TRANSFORMER | | S101 | RSS2B36ZA-M | SW, SSB | |
| T4 | RL13A4-M | TRANSFORMER | | S201 | RSS2B40ZA-Q | SW, HOLD | |
| T5 | RL13A4-M | TRANSFORMER | | S202 | RSS3B32ZA-A | SW, SLOW/FAST | |
| T6 | RL14A4-M | TRANSFORMER | | | | TERMINALS | |
| T7 | RL13A3-T | TRANSFORMER | | J1 | RJJD3M8ZA-C | JACK, EARPHONES | |
| T8 | RL12A35-T | TRANSFORMER | | J2 | RJJD5M2ZA-H | JACK, EXT ANT | <G> |
| T10 | RL12A002-T | TRANSFORMER | | J3 | RJJ1B12C-C | JACK, DC IN | |
| T11 | RL14A33-T | TRANSFORMER | | | | DISPLAYS | |
| T12 | RL12A003-M | TRANSFORMER | | LCD1 | HLC9340 | LCD | |
| T13 | RL09A11-T | TRANSFORMER | | | | | |
| | | FILTERS | | | | | |
| CF1 | RVTSFE107MAR | CERAMIC FILTER | | | | | |
| CF2 | RVTSFR45011 | CERAMIC FILTER | <G> | | | | |
| CF2 | RLFASFR45911 | CERAMIC FILTER | <EG> | | | | |
| CF3 | RVTSFE107MAR | CERAMIC FILTER | | | | | |
| XF1 | RVJ55M845A | FILTER | | | | | |

Notes : * Important safety notice:

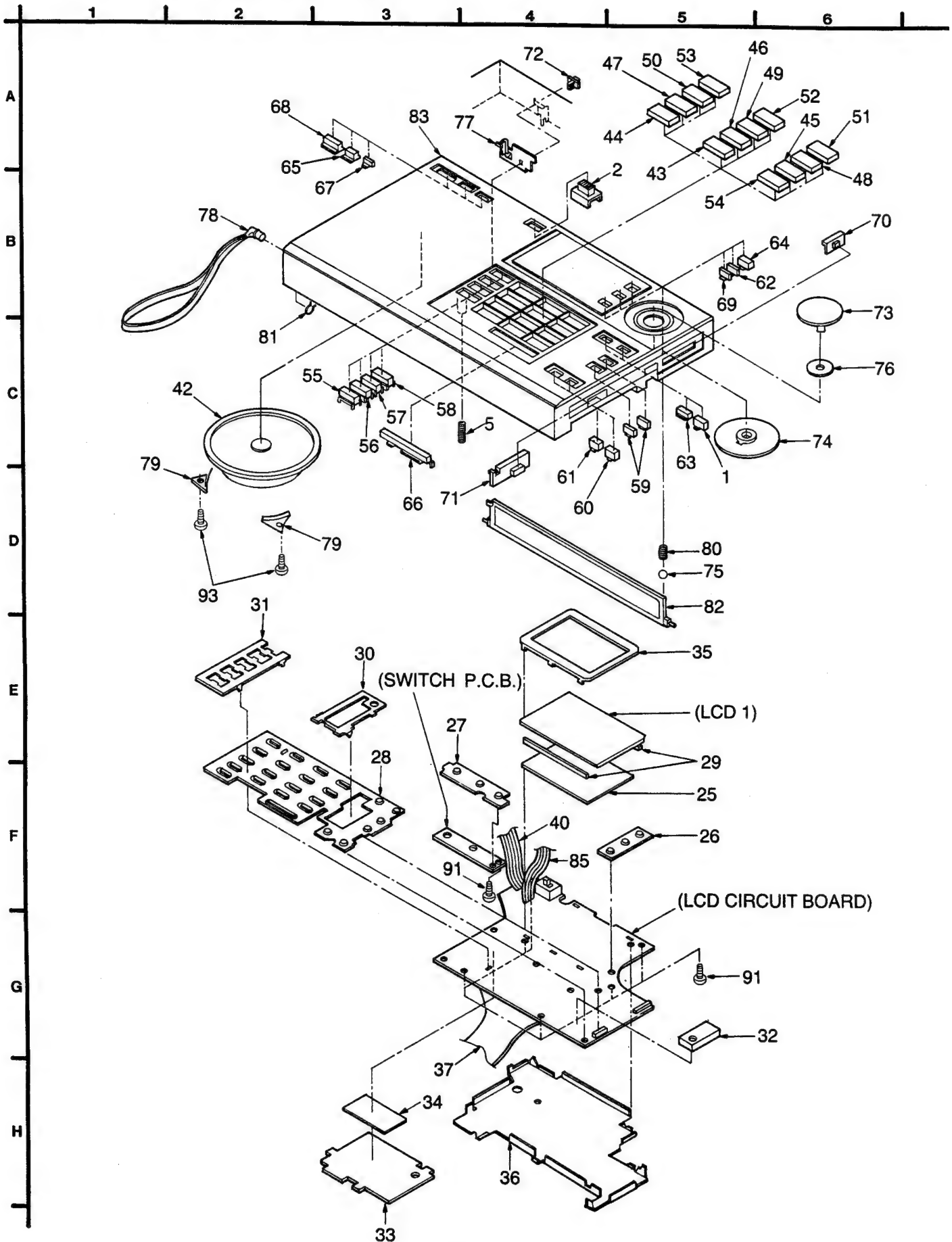
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

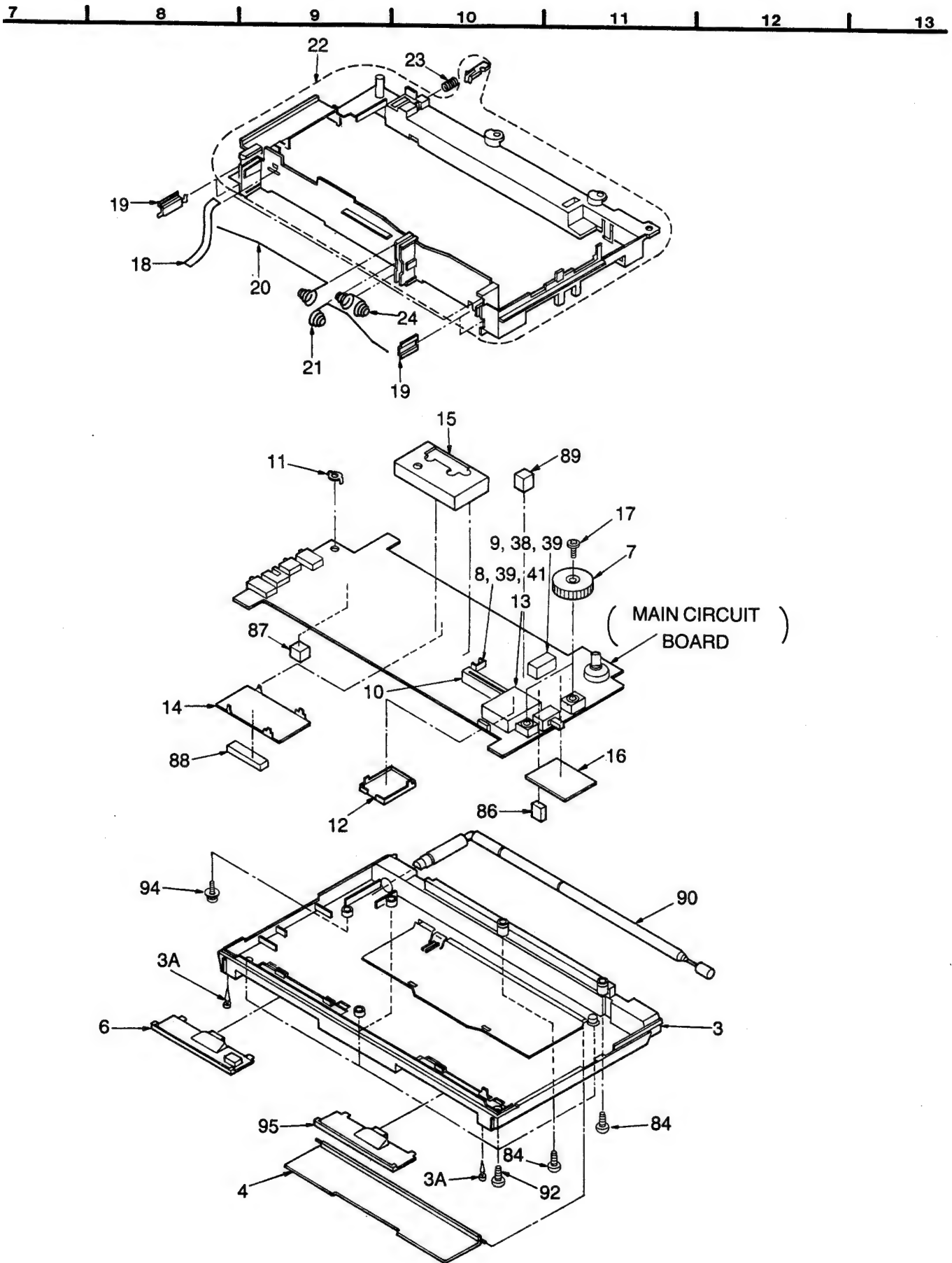
* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)
Parts without these indications can be used for all areas.

| Ref. No. | Part No. | Part Name & Description | Remarks | Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|-------------|----------------------------|---------|----------|-------------|-------------------------|---------|
| | | CABINET AND CHASSIS | | 42 | EAS8P24S | SPEAKER | |
| 1 | RBC10292B-0 | BUTTON, MANUAL TUNING (UP) | | 43 | RBC1023PA-0 | BUTTON, (.) | |
| 2 | RGV0011-K | KNOB, SSB | | 44 | RBC1023QA-0 | BUTTON, (0) | |
| 3 | RYFFB65DG | REAR CABINET ASS'Y | <G> | 45 | RBC1023RA-0 | BUTTON, (9) | |
| 3 | RYFFB65DEG | REAR CABINET ASS'Y | <EG> | 46 | RBC1023SA-0 | BUTTON, (8) | |
| 3A | RHG384ZA-0 | RUBBER | | 47 | RBC1023TA-0 | BUTTON, (7) | |
| 4 | RKL30ZA | STAND | | 48 | RBC1023UA-0 | BUTTON, (6) | |
| 5 | RJQ52ZA | SPRING | | 49 | RBC1023VA-0 | BUTTON, (5) | |
| 6 | RYNFB65DG | BATTERY COMPARTMENT | | 50 | RBC1023WA-0 | BUTTON, (4) | |
| 7 | RBT260ZA-0 | KNOB, FINE/VOL | | 51 | RBC1023XA-0 | BUTTON, (3) | |
| 8 | RJP4G18ZA | CONNECTOR | | 52 | RBC1023YA-0 | BUTTON, (2) | |
| 9 | RJP6G18ZA | CONNECTOR | | 53 | RBC1023ZA-0 | BUTTON, (1) | |
| 10 | RJS20Q5ZA | CONNECTOR | | 54 | RBC1023OA-0 | BUTTON, (0) | |
| 11 | RJT1073ZA | ANT, TERMINAL | | 55 | RBC1024WB-0 | BUTTON, BAND (SW) | |
| 12 | RSC0018 | SHIELD PLATE | | 56 | RBC1024XB-0 | BUTTON, BAND (MW) | |
| 13 | RSC0019 | SHIELD PLATE | | 57 | RBC1024YB-0 | BUTTON, BAND (LW) | |
| 14 | RSC0020 | SHIELD PLATE | | 58 | RBC1024ZB-0 | BUTTON, BAND (FM) | |
| 15 | RSC0021 | SHIELD PLATE | | 59 | RBC1025ZA-0 | BUTTON, STAND BY | |
| 16 | RSC0036 | SHIELD PLATE | | 60 | RBC1026YB-0 | BUTTON, ACCESS (METER) | |
| 17 | XSHR17*2FZ | SCREW | | 61 | RBC1026ZB-0 | BUTTON, ACCESS (FREQ.) | |
| 18 | RHS32ZA | TAPE | | 62 | RBC1027ZA-0 | BUTTON, DIAL TIME | |
| 19 | RJC3F0010ZC | TERMINAL | | 63 | RBC1028ZB-0 | BUTTON, MANUAL TUNING | |
| 20 | RJC70012ZA | BATT. SPRING | | 64 | RBC1030ZA-0 | BUTTON, CLOCK/FREQ. | |
| 21 | RJC70013ZA | BATT. SPRING | | 65 | RBC1031ZB-0 | BUTTON, POWER OFF | |
| 22 | RMK0022-K | CHASSIS | <G> | 66 | RBC1032ZB-0 | BUTTON, ENTER | |
| 22 | RMK0022A-K | CHASSIS | <EG> | 67 | RBC1033ZA-0 | BUTTON, SLEEP | |
| 23 | RJQ52ZA | SPRING | | 68 | RBC1034ZB-0 | BUTTON, POWER ON | |
| 24 | RJC70014ZA | BATT. SPRING | | 69 | RBC1041ZA-0 | BUTTON, TIME SET | |
| 25 | RGX1659ZA-0 | PLATE | | 70 | RBD429ZA-0 | KNOB, SLOW FAST | |
| 26 | RHG5043ZA | RUBBER | | 71 | RBD430ZA-0 | KNOB, HOLD | |
| 27 | RHG5044ZA | RUBBER | | 72 | RBD431ZA-0 | KNOB, OPEN | |
| 28 | RHG5045ZA | RUBBER | | 73 | RBN754ZA-0 | KNOB, ROTARY TUNING | |
| 29 | RHG5047ZA | RUBBER | | 74 | RBT284ZA-0 | KNOB, ROTARY TUNING | |
| 30 | RMC1099ZA | SHIELD PLATE | | 75 | RHM156ZA | STEEL BALL | |
| 31 | RMC1100ZA | SHIELD PLATE | | 76 | RHR2110ZA | SPACER | |
| 32 | RMC1101ZA | SHIELD PLATE | | 77 | RHR3102ZA-0 | LEVER | |
| 33 | RMC1105ZA | SHIELD PLATE | | 78 | RKH146ZA-0 | CARRING STRAP | |
| 34 | RMC1115ZA | SHIELD PLATE | | 79 | RMS12B | HOLDER | |
| 35 | RSC0017 | LCD HOLDER | | 80 | RJQ53ZA | SPRING | |
| 36 | RSC0037 | SHIELD PLATE | | 81 | XJC3FY-V | C. RING | |
| 37 | RUP2118ZAM | F. P. C | | 82 | RYFFB65DG | STATION REMINDER | |
| 38 | RJS6L4ZA | CONNECTOR (6P) | | 83 | RYNFB65DG | FRONT CABINET ASS'Y | <G> |
| 39 | RJT807ZB-X | TERMINAL | | 83 | RYNFB65DEG | FRONT CABINET ASS'Y | <EG> |
| 40 | WBB6GB-14 | FLAT CABLE WIRE | | 84 | RHE5128ZA | SCREW | |
| 41 | RJSS4L4ZA-X | SOCKET | | 85 | WWB84GB-6 | FLAT CABLE | |
| | | | | 86 | RHG1041ZA | RUBBER | |
| | | | | 87 | RHG1115ZA | RUBBER | |

[illegible]

CABINET PARTS LOCATION





RESISTORS & CAPACITORS

Notes : * Important safety notice :

Components identified by Δ mark have special characteristics important for safety. When replacing any of these components use only manufacturer's specified parts.

* Bracketed indications in Ref. No. columns specify the area. (Refer to the first page for area.)

Parts without these indications can be used for all areas.

Numbering System For Resistors

Example:

| | | | | |
|------|-------------------|-------|-----------|--------------------------|
| ERD | 25 | F | J | 102 |
| Type | Wattage (1/4W) | Shape | Tolerance | Value (1K Ω) |
| ERX | 2 | AN | J | 471 |
| Type | Wattage (2W) | Shape | Tolerance | Value (470 Ω) |

Numbering System For Capacitors

Example:

| | | | | |
|------|------------------|--------------------------|-----------|-----------------------|
| ECKD | 1H | 102 | Z | F |
| Type | Voltage (50V) | Value (0.001 μ F) | Tolerance | Unique |
| ECEA | 50 | M | | 330 |
| Type | Voltage (50V) | Characteristics | | Value (33 μ F) |

● Capacity values are in microfarads (μ F) unless specified otherwise, P = Pico-farads (pF) F = Farads (F).

● Resistance values are in ohms (Ω), unless specified otherwise, 1K = 1,000 Ω , 1M = 1,000k Ω

| Resistor Type | Wattage | | Tolerance |
|-----------------------------------|------------|-----------|----------------|
| ERD : Carbon | 10 : 1/8W | 12 : 1/2W | J : $\pm 5\%$ |
| ERG : Metal Oxide | 14 : 1/4W | 25 : 1/4W | F : $\pm 1\%$ |
| ERQ : Fuse Type Metal | 1A : 1W | 18 : 1/8W | G : $\pm 2\%$ |
| ERX : Metal Film | S2 : 1/4W | S1 : 1/2W | J : $\pm 5\%$ |
| ERD L : Carbon (chip) | 2F : 1/4W | 50 : 1/2W | K : $\pm 10\%$ |
| ERO K : Metal Film (chip) | 2A : 2W | 3A : 3W | M : $\pm 20\%$ |
| ERC : Solid | 6G : 1/10W | 8G : 1/8W | |
| ERF : Incombustible Box-Shaped | | | |
| ERM : Wire-Wound | | | |
| RRJ : Chip Resistor | | | |
| ERJ : Chip Resistor | | | |

| Capacitor Type | Voltage | | Tolerance |
|---|----------------------|-----------|-----------------------|
| ECE : Electrolytic | 0J : 6.3V | 1A : 10V | K : $\pm 10\%$ |
| ECCD : Ceramic | 1C : 16V | 1E : 25V | M : $\pm 20\%$ |
| ECKD : Ceramic Capacitor | 1H : 50V | 1V : 35V | Z : $\pm 80\%$ -20 |
| ECQM : Polyester | 50 : 50V | 05 : 50V | J : $\pm 5\%$ |
| ECQP : Polypropylene | 2H : 500V | 2A : 100V | G : $\pm 2\%$ |
| ECG : Ceramic | 1 : 100V | 1J : 63V | F : $\pm 1\%$ |
| ECEA N : Non Polar Electrolytic | KC : 400V AC | | C : $\pm 0.25\mu$ F |
| OCU : Ceramic (Chip Type) | KC : 125V AC (UL) | | D : $\pm 0.5\mu$ F |
| ECUX : Ceramic (Chip Type) | | | |
| ECF : Semiconductor | | | |
| EECW : Liquid electrolyte double layer capacitor | | | |

| Ref. No. | Part No. | Part Name & Description | Remarks | Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|----------|--------------|-------------------------|---------|
| | | RESISTORS | | R28 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| | | | | R29 | RRJ6GCJ562TE | RESISTOR 1/10 W 5.6K | |
| | | | | R30 | RRJ6GCJ470TE | RESISTOR 1/10 W 47 | |
| R1 | RRJ6GCJ102TE | RESISTOR 1/10 W | | R31 | RRJ6GCJ104TE | RESISTOR 1/10 W 100K | <G> |
| R2 | RRJ6GCJ222TE | RESISTOR 1/10 W 1K | | R32 | RRJ6GCJ332TE | RESISTOR 1/10 W 3.3K | |
| R3 | RRJ6GCJ101TE | RESISTOR 1/10 W 2.2K | | R33 | RRJ6GCJ470TE | RESISTOR 1/10 W 47 | |
| R4 | RRJ6GCJ220TE | RESISTOR 1/10 W 100 | | R34 | RRJ6GCJ331TE | RESISTOR 1/10 W 330 | <G> |
| R5 | RRJ6GCJ104TE | RESISTOR 1/10 W 100K | | R35 | RRJ6GCJ224TE | RESISTOR 1/10 W 220K | |
| R6 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | R36 | RRJ6GCJ470TE | RESISTOR 1/10 W 47 | <G> |
| R7 | RRJ6GCJ104TE | RESISTOR 1/10 W 100K | | R37 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | |
| R9 | RRJ6GCJ220TE | RESISTOR 1/10 W 22 | | R38 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | |
| R10 | RRJ6GCJ221TE | RESISTOR 1/10 W 220 | | R40 | RRJ6GCJ220TE | RESISTOR 1/10 W 22 | |
| R11 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | R41 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | |
| R12 | RRJ6GCJ220TE | RESISTOR 1/10 W 22 | | R42 | RRJ6GCJ152TE | RESISTOR 1/10 W 22K | |
| R14 | RRJ6GCJ104TE | RESISTOR 1/10 W 100K | | R43 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | |
| R15 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | | R44 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | |
| R16 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | | R45 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | |
| R17 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | | R46 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | |
| R18 | RRJ6GCJ104TE | RESISTOR 1/10 W 100K | | R47 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R19 | RRJ6GCJ470TE | RESISTOR 1/10 W 47 | | R48 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | |
| R20 | RRJ6GCJ221TE | RESISTOR 1/10 W 220 | | R49 | RRJ6GCJ332TE | RESISTOR 1/10 W 33K | |
| R21 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | | R50 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | |
| R22 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | | R51 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | |
| R23 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | | R52 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | |
| R24 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | | R53 | RRJ6GCJ470TE | RESISTOR 1/10 W 47 | |
| R25 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | | R54 | RRJ6GCJ220TE | RESISTOR 1/10 W 22 | |
| R26 | RRJ6GCJ333TE | RESISTOR 1/10 W 33K | | R55 | RRJ6GCJ224TE | RESISTOR 1/10 W 220K | |
| R27 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | | R56 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| R57 | RRJ6GCJ220TE | RESISTOR 1/10 W 22 | |
| R58 | RRJ6GCJ224TE | RESISTOR 1/10 W 220K | |
| R59 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R60 | RRJ6GCJ104TE | RESISTOR 1/10 W 100K | |
| R61 | RRJ6GCJ472TE | RESISTOR 1/10 W 4.7K | |
| R62 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | |
| R63 | RRJ6GCJ104TE | RESISTOR 1/10 W 100K | |
| R64 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R65 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R66 | RRJ6GCJ222TE | RESISTOR 1/10 W 2.2K | |
| R67 | RRJ6GCJ472TE | RESISTOR 1/10 W 4.7K | |
| R68 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R69 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R71 | RRJ6GCJ221TE | RESISTOR 1/10 W 220 | |
| R72 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R73 | RRJ6GCJ471TE | RESISTOR 1/10 W 470 | |
| R74 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | |
| R75 | RRJ6GCJ562TE | RESISTOR 1/10 W 5.6K | |
| R76 | RRJ6GCJ272TE | RESISTOR 1/10 W 2.7K | |
| R77 | RRJ6GCJ471TE | RESISTOR 1/10 W 470 | |
| R78 | RRJ6GCJ471TE | RESISTOR 1/10 W 470 | |
| R79 | RRJ6GCJ332TE | RESISTOR 1/10 W 3.3K | |
| R80 | RRJ6GCJ222TE | RESISTOR 1/10 W 2.2K | |
| R81 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | |
| R82 | RRJ6GCJ471TE | RESISTOR 1/10 W 470 | |
| R83 | RRJ6GCJ331TE | RESISTOR 1/10 W 330 | |
| R84 | RRJ6GCJ470TE | RESISTOR 1/10 W 47 | |
| R85 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | |
| R86 | RRJ6GCJ332TE | RESISTOR 1/10 W 3.3K | |
| R87 | RRJ6GCJ471TE | RESISTOR 1/10 W 470 | |
| R88 | RRJ6GCJ562TE | RESISTOR 1/10 W 5.6K | |
| R89 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | |
| R90 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R91 | RRJ6GCJ331TE | RESISTOR 1/10 W 330 | |
| R92 | RRJ6GCJ562TE | RESISTOR 1/10 W 5.6K | |
| R93 | RRJ6GCJ332TE | RESISTOR 1/10 W 3.3K | |
| R94 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | |
| R95 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | |
| R97 | RRJ6GCJ471TE | RESISTOR 1/10 W 470 | |
| R98 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | |
| R99 | RRJ6GCJ224TE | RESISTOR 1/10 W 220K | |
| R100 | RRJ6GCJ682TE | RESISTOR 1/10 W 6.8K | |
| R101 | RRJ6GCJ332TE | RESISTOR 1/10 W 3.3K | |
| R102 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | |
| R103 | RRJ6GCJ471TE | RESISTOR 1/10 W 470 | |
| R104 | RRJ6GCJ471TE | RESISTOR 1/10 W 470 | |
| R105 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | |
| R106 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | |
| R107 | RRJ6GCJ152TE | RESISTOR 1/10 W 1.5K | |
| R108 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | |
| R109 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | |
| R110 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | |

| Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|
| R111 | RRJ6GCJ222TE | RESISTOR 1/10 W 2.2K | |
| R112 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | |
| R113 | RRJ6GCJ224TE | RESISTOR 1/10 W 220K | |
| R114 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | |
| R115 | RRJ6GCJ272TE | RESISTOR 1/10 W 2.7K | |
| R116 | RRJ6GCJ152TE | RESISTOR 1/10 W 1.5K | |
| R117 | RRJ6GCJ471TE | RESISTOR 1/10 W 470 | |
| R118 | RRJ6GCJ153TE | RESISTOR 1/10 W 15K | |
| R119 | RRJ6GCJ471TE | RESISTOR 1/10 W 470 | |
| R120 | RRJ6GCJ333TE | RESISTOR 1/10 W 33K | |
| R121 | RRJ6GCJ333TE | RESISTOR 1/10 W 33K | |
| R122 | RRJ6GCJ470TE | RESISTOR 1/10 W 47 | |
| R123 | RRJ6GCJ332TE | RESISTOR 1/10 W 3.3K | |
| R124 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R125 | RRJ6GCJ222TE | RESISTOR 1/10 W 2.2K | |
| R126 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R127 | RRJ6GCJ222TE | RESISTOR 1/10 W 2.2K | |
| R128 | RRJ6GCJ152TE | RESISTOR 1/10 W 1.5K | |
| R129 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R130 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | |
| R131 | RRJ6GCJ470TE | RESISTOR 1/10 W 47 | |
| R132 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | |
| R133 | RRJ6GCJ470TE | RESISTOR 1/10 W 47 | |
| R134 | RRJ6GCJ221TE | RESISTOR 1/10 W 220 | |
| R135 | RRJ6GCJ562TE | RESISTOR 1/10 W 5.6K | |
| R138 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | |
| R139 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | |
| R140 | RRJ6GCJ272TE | RESISTOR 1/10 W 2.7K | |
| R141 | RRJ6GCJ153TE | RESISTOR 1/10 W 15K | |
| R142 | RRJ6GCJ153TE | RESISTOR 1/10 W 15K | |
| R143 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | |
| R144 | RRJ6GCJ104TE | RESISTOR 1/10 W 100K | |
| R145 | RRJ6GCJ104TE | RESISTOR 1/10 W 100K | |
| R146 | RRJ6GCJ104TE | RESISTOR 1/10 W 100K | |
| R147 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | |
| R201 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | |
| R202 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | |
| R204 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | |
| R205 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | |
| R206 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | |
| R207 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | |
| R208 | RRJ6GCJ394TE | RESISTOR 1/10 W 390K | |
| R209 | RRJ6GCJ184TE | RESISTOR 1/10 W 180K | |
| R210 | RRJ6GCJ823TE | RESISTOR 1/10 W 82K | |
| R211 | RRJ6GCJ273TE | RESISTOR 1/10 W 27K | |
| R212 | RRJ6GCJ822TE | RESISTOR 1/10 W 8.2K | |
| R213 | RRJ6GCJ472TE | RESISTOR 1/10 W 4.7K | |
| R214 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | |
| R217 | RRJ6GCJ272TE | RESISTOR 1/10 W 2.7K | |
| R218 | RRJ6GCJ153TE | RESISTOR 1/10 W 15K | |
| R220 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | |
| R221 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |

| Ref. No. | Part No. | Part Name & Description | Remarks | Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|--------------|-------------------------|---------|----------|--------------|-------------------------|---------|
| R218 | RRJ6GCJ153TE | RESISTOR 1/10 W 15K | | R272 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R220 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | | R273 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R221 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | R274 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R222 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | R275 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R223 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | R277 | RRJ6GCJ333TE | RESISTOR 1/10 W 33K | |
| R224 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | R278 | RRJ6GCJ104TE | RESISTOR 1/10 W 100K | |
| R225 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | R279 | RRJ6GCJ333TE | RESISTOR 1/10 W 33K | |
| R226 | RRJ6GCJ470TE | RESISTOR 1/10 W 47 | | R280 | RRJ6GCJ104TE | RESISTOR 1/10 W 100K | |
| R227 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | R281 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | |
| R228 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | R282 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | |
| R229 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | R283 | RRJ6GCJ471TE | RESISTOR 1/10 W 470 | |
| R230 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | R285 | RRJ6GCJ681TE | RESISTOR 1/10 W 680 | |
| R231 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | | R286 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R232 | RRJ6GCJ332TE | RESISTOR 1/10 W 3.3K | | R287 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R233 | RRJ6GCJ331TE | RESISTOR 1/10 W 330 | | R288 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R234 | RRJ6GCJ104TE | RESISTOR 1/10 W 100K | | R289 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R235 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | R290 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | |
| R236 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | | R292 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | <EG> |
| R237 | RRJ6GCJ182TE | RESISTOR 1/10 W 1.8K | | R294 | RRJ6GCJ153TE | RESISTOR 1/10 W 15K | |
| R238 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | | R295 | RRJ6GCJ105TE | RESISTOR 1/10 W 1M | |
| R239 | RRJ6GCJ330TE | RESISTOR 1/10 W 33 | | | | | |
| R240 | RRJ6GCJ101TE | RESISTOR 1/10 W 100 | | | | CAPACITOR | |
| R242 | RRJ6GCJ104TE | RESISTOR 1/10 W 100K | | | | | |
| R243 | RRJ6GCJ564TE | RESISTOR 1/10 W 560K | | C1 | ECEA1CK100I | CAPACITOR 16 V 10 | |
| R244 | RRJ6GCJ102TE | RESISTOR 1/10 W 1K | | C2 | RCUV1H070DC | CAPACITOR 50 V 7P | |
| R245 | RRJ6GCJ471TE | RESISTOR 1/10 W 470 | | C3 | RCUV1H820KC | CAPACITOR 50 V 2P | |
| R246 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | | C4 | RCUV1E103MD | CAPACITOR 25 V 0.01 | |
| R247 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | | C5 | RCUV1H472MD | CAPACITOR 50 V 0.0047 | |
| R248 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | | C6 | RCUV1H050DC | CAPACITOR 50 V 5P | |
| R249 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | | C7 | ECEA1CK100I | CAPACITOR 16 V 10 | |
| R250 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | | C8 | RCUV1H680KC | CAPACITOR 50 V 68P | |
| R251 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | C9 | RCUV1H390KC | CAPACITOR 50 V 39P | |
| R252 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | C10 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | |
| R253 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | | C11 | RCUV1H470KC | CAPACITOR 50 V 47P | |
| R254 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | | C12 | RCUV1E223MD | CAPACITOR 25 V 0.022 | |
| R255 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | C13 | RCUV1H020CC | CAPACITOR 50 V 2P | |
| R256 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | C14 | RCUV1H020CC | CAPACITOR 50 V 2P | |
| R257 | RRJ6GCJ105TE | RESISTOR 1/10 W 1M | | C15 | RCUV1H102MD | CAPACITOR 50 V 0.001 | |
| R258 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | | C16 | RCUV1E223MD | CAPACITOR 25 V 0.022 | |
| R259 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | <G> | C17 | ECEA1CK100I | CAPACITOR 16 V 10 | |
| R260 | RRJ6GCJ223TE | RESISTOR 1/10 W 22K | | C18 | RCUV1E103MD | CAPACITOR 25 V 0.01 | |
| R261 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | | C19 | RCUV1H150KC | CAPACITOR 50 V 15P | |
| R262 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | C20 | RCUV1H050DC | CAPACITOR 50 V 5P | |
| R263 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | C21 | RCUV1H390KC | CAPACITOR 50 V 39P | |
| R264 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | C22 | RCUV1H220KC | CAPACITOR 50 V 22P | |
| R265 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | | C23 | RCUV1H102MD | CAPACITOR 50 V 0.001 | |
| R266 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | C24 | RCUV1H100KC | CAPACITOR 50 V 10P | |
| R267 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | | C25 | RCUV1H472MD | CAPACITOR 50 V 0.0047 | |
| R268 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | C26 | RCUV1H472MD | CAPACITOR 50 V 0.0047 | |
| R269 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | | C27 | RCUV1H472MD | CAPACITOR 50 V 0.0047 | |
| R270 | RRJ6GCJ103TE | RESISTOR 1/10 W 10K | | C28 | RCUV1H050DC | CAPACITOR 50 V 5P | |
| R271 | RRJ6GCJ473TE | RESISTOR 1/10 W 47K | | C29 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | |

| Ref. No. | Part No. | Part Name & Description | Remarks | Ref. No. | Part No. | Part Name & Description | Remarks |
|----------|-------------|-------------------------|---------|----------|--------------|-------------------------|---------|
| C30 | RCUV1H472MD | CAPACITOR 50 V 0.0047 | | C82 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | |
| C31 | RCUV1E103MD | CAPACITOR 25 V 0.01 | | C83 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | |
| C32 | RCUV1H680KC | CAPACITOR 50 V 68P | | C84 | RCUV1E223MD | CAPACITOR 25 V 0.022 | |
| C33 | ECEA0GK470I | CAPACITOR 4 V 47 | | C85 | RCUV1E223MD | CAPACITOR 25 V 0.022 | |
| C34 | RCUV1H680KC | CAPACITOR 50 V 68P | | C86 | ECEA0JK220I | CAPACITOR 6.3V 22 | |
| C35 | RCUV1H472MD | CAPACITOR 50 V 0.0047 | | C87 | RCUV1E104ZF | CAPACITOR 25 V 0.1 | |
| C36 | RCUV1H220KC | CAPACITOR 50 V 22P | | C88 | ECEA1CKS100I | CAPACITOR 16 V 10 | |
| C37 | RCUV1H150KC | CAPACITOR 50 V 15P | | C89 | ECUV1C105ZF | CAPACITOR 16 V 1 | |
| C38 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | | C90 | ECEA1HKS3R3I | CAPACITOR 50 V 3.3 | |
| C39 | ECEA1CK100I | CAPACITOR 16 V 10 | | C91 | ECEA1HK010I | CAPACITOR 50 V 1 | |
| C40 | RCUV1H030CC | CAPACITOR 50 V 3P | | C92 | RCUV1E153MD | CAPACITOR 25 V 0.015 | |
| C41 | RCUV1H221K | CAPACITOR 50 V 220P | <G> | C93 | ECEA0GK101I | CAPACITOR 4 V 100 | |
| C42 | RCUV1H472MD | CAPACITOR 50 V 0.0047 | | C94 | RCUV1H472MD | CAPACITOR 50 V 0.0047 | |
| C43 | RCUV1H681K | CAPACITOR 50 V 680P | <G> | C95 | RCUV1H101K | CAPACITOR 50 V 100P | |
| C44 | RCUV1H103ZF | CAPACITOR 50 V 0.001 | | C96 | RCUV1E223MD | CAPACITOR 25 V 0.022 | |
| C45 | RCUV1H020CC | CAPACITOR 50 V 2P | | C97 | RCUV1E223MD | CAPACITOR 25 V 0.022 | |
| C46 | ECEA1CK100I | CAPACITOR 16 V10 | | C98 | RCUV1H102MD | CAPACITOR 50 V 0.001 | |
| C47 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | | C99 | RCUV1E103MD | CAPACITOR 25 V 0.01 | |
| C48 | RCUV1H221K | CAPACITOR 50 V 220 | | C100 | ECEA0GK470I | CAPACITOR 4 V 47 | |
| C49 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | | C101 | RCUV1E103MD | CAPACITOR 25 V 0.01 | |
| C50 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | | C102 | RCUV1E104ZF | CAPACITOR 25 V 0.1 | |
| C51 | ECEA1HGR47I | CAPACITOR 50 V 0.47 | | C103 | RCUV1E153MD | CAPACITOR 25 V 0.015 | |
| C52 | RCUV1H102MD | CAPACITOR 50 V 0.001 | | C104 | RCUV1H220KC | CAPACITOR 50 V 22 | |
| C53 | RCUV1E103MD | CAPACITOR 25 V 0.01 | | C105 | RCUV1E153MD | CAPACITOR 25 V 0.015 | |
| C54 | ECEA0JK220I | CAPACITOR 6.3V 22 | | C106 | RCUV1H220KC | CAPACITOR 50 V 22P | |
| C55 | RCUV1H030CC | CAPACITOR 50 V 3P | | C107 | RCUV1H102MD | CAPACITOR 50 V 0.001 | |
| C56 | ECEA1HGR47I | CAPACITOR 50 V 0.47 | | C108 | RCUV1H102MD | CAPACITOR 50 V 0.001 | |
| C57 | ECEA1CK100I | CAPACITOR 16 V 10 | | C109 | RCUV1H472MD | CAPACITOR 50 V 0.0047 | |
| C58 | RCUV1H050DC | CAPACITOR 50 V 5P | | C110 | ECEA0JU101E | CAPACITOR 6.3V 100 | |
| C59 | RCUV1H330KC | CAPACITOR 50 V 5P | | C111 | RCUV1E223MD | CAPACITOR 25 V 0.022 | |
| C60 | ECEA1CK100I | CAPACITOR 16 V 10 | | C112 | ECEA1CK100I | CAPACITOR 16 V 10 | |
| C61 | ECEA1HND10I | CAPACITOR 50 V 1 | | C113 | RCUV1E103MD | CAPACITOR 25 V 0.01 | |
| C62 | RCUV1H102MD | CAPACITOR 50 V 0.001 | | C115 | ECUV1E104MD | CAPACITOR 25 V 0.1 | |
| C63 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | | C116 | RCUV1H390KC | CAPACITOR 50 V 39P | |
| C64 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | | C117 | ECEA0JU101E | CAPACITOR 6.3V 100 | |
| C65 | RCUV1E103MD | CAPACITOR 25 V 0.01 | | C118 | RCUV1E223MD | CAPACITOR 25 V 0.022 | |
| C66 | ECEA1HGR33I | CAPACITOR 25 V 0.33 | | C119 | ECEA1AKS220I | CAPACITOR 10 V 22 | |
| C67 | RCUV1H101K | CAPACITOR 50 V 100P | | C121 | RCUV1E104ZF | CAPACITOR 25 V 0.1 | |
| C68 | RCUV1E103MD | CAPACITOR 25 V 0.01 | | C122 | RCUV1E223MD | CAPACITOR 25 V 0.022 | |
| C69 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | | C123 | ECEA1AU471E | CAPACITOR 10 V 470 | |
| C70 | RCUV1E223MD | CAPACITOR 25 V 0.022 | | C124 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | |
| C71 | ECEA1HND10I | CAPACITOR 50 V 1 | | C125 | ECUV1E104MD | CAPACITOR 25 V 0.1 | |
| C72 | RCUV1H270JU | CAPACITOR 50 V 27P | | C126 | ECEA1HK010I | CAPACITOR 50 V 1 | |
| C73 | RCUV1H472MD | CAPACITOR 50 V 0.0047 | | C127 | ECEA1EK4R7I | CAPACITOR 25 V 4.7 | |
| C74 | ECEA0GK470I | CAPACITOR 4 V 47 | | C128 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | |
| C75 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | | C129 | ECEA1AU221E | CAPACITOR 10 V 220 | |
| C76 | RCUV1E103MD | CAPACITOR 25 V 0.01 | | C130 | RCUV1H681K | CAPACITOR 50 V 680P | |
| C77 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | | C131 | ECUV1E104MD | CAPACITOR 25 V 0.1 | |
| C78 | RCUV1H220KC | CAPACITOR 50 V 22P | | C132 | ECUV1E333MD | CAPACITOR 25 V 0.033 | |
| C79 | ECEA0GK101I | CAPACITOR 4 V 100 | | C133 | RCUV1H103ZF | CAPACITOR 50 V 0.01 | |
| C80 | RCUV1E103MD | CAPACITOR 25 V 0.01 | | C135 | RCUV1H100DU | CAPACITOR 50 V 10P | |
| C81 | ECEA1CK100I | CAPACITOR 16 V 10 | | C136 | RCUV1H330KC | CAPACITOR 50 V 33P | |

